







S. 320  
21







NOVITATES ZOOLOGICAE.

Vol. XIX., 1912.





# NOVITATES ZOOLOGICAE.

A Journal of Zoology

*IN CONNECTION WITH THE TRING MUSEUM.*

EDITED BY

THE HON. WALTER ROTHSCHILD, F.R.S., PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XIX., 1912.

*(WITH FOURTEEN PLATES.)*

ISSUED AT THE ZOOLOGICAL MUSEUM, TRING

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1912—1913.



# CONTENTS OF VOLUME XIX. (1912).

## GENERAL SUBJECT.

	PAGES
1. On the Term "Subspecies" as used in Systematic Zoology. WALTER ROTHSCHILD . . . . .	135—136

## MAMMALIA.

1. Descriptions of Two Giant Rats from New Guinea, presented to the British Museum by the Hon. Walter Rothschild, F.R.S. OLDFIELD THOMAS . . . . .	91—92
--	-------

## AVES.

1. Note on <i>Conurus aeruginosus</i> and the allied species. T. SALVADORI . . . . .	84—85
2. List of a Collection of Birds made by Mr. Albert Meek on the Kumusi River, North-Eastern British New Guinea. WALTER ROTHSCHILD and ERNST HARTERT . . . . .	187—206
3. List of Birds collected by Mr. A. S. Meek at Haidana, Collingwood Bay, in North-Eastern British New Guinea. WALTER ROTHSCHILD and ERNST HARTERT . . . . .	207—209
4. Description of Two New Birds from the Timor Group of Islands. C. E. HELLMAYR . . . . .	210—211
5. The Birds of Yunnan. COLLINGWOOD INGRAM . . . . .	269—310
6. Ornithologische Miscellen aus dem Indo-Australischen Gebiet. ERWIN STRESEMANN . . . . .	311—351
7. On some unfigured Birds. (Plates I. and II.) ERNST HARTERT . . . . .	373—374

## COLEOPTERA.

1. List of the <i>Anthribidae</i> in the Congo Museum at Tervueren. K. JORDAN . . . . .	63—67
2. New <i>Anthribidae</i> in the Collection of H. E. Andrewes. K. JORDAN . . . . .	87—90
3. Neue Apionen des Nord- und Süd-Amerikanischen Faunengebietes. (Illustriert.) HANS WAGNER . . . . .	97—118
4. Formosan <i>Anthribidae</i> collected by H. Sauter. K. JORDAN . . . . .	137—145
5. Descriptions d'Espèces et Variétés Nouvelles de Coccinellides du British Museum. DOCTEUR SICARD . . . . .	247—268

## LEPIDOPTERA.

	PAGES
1. <i>New Noctuidæ</i> in the Tring Museum, mainly from the Indo-Oriental Region. W. WARREN . . . . .	1—57
2. <i>New Geometridæ</i> in the Tring Museum from New Guinea. W. WARREN . . . . .	68—83
3. <i>Caligula</i> Hybr. <i>salmonii</i> , a new Hybrid of <i>Saturniidae</i> . (Illustrated.) J. HENRY WATSON . . . . .	86—87
4. On an apparently New Form of <i>Lambessa</i> from Algeria. WALTER ROTHSCHILD . . . . .	118
5. A Synonymic Catalogue of the <i>Syntomid</i> Genus BALACRA Walk., with Descriptions of New Species. (Plates XIII—XIV.)* WALTER ROTHSCHILD . . . . .	119—122
6. New Bornean <i>Aegeriidae</i> and <i>Syntomidae</i> . WALTER ROTHSCHILD . . . . .	122—124
7. New Mauretania Moths. WALTER ROTHSCHILD . . . . .	125—127
8. Some New <i>Sphingidae</i> . (Illustrated.) WALTER ROTHSCHILD and K. JORDAN . . . . .	128—135
9. Some New Oriental <i>Zygaenidae</i> . K. JORDAN . . . . .	146—150
10. New <i>Syntomidae</i> . WALTER ROTHSCHILD . . . . .	151—186
11. New <i>Lithosiinae</i> . WALTER ROTHSCHILD . . . . .	212—246
12. Some unfigured <i>Syntomidae</i> , <i>Aegeriidae</i> and <i>Arctiinae</i> . (Plates III.—V.) WALTER ROTHSCHILD . . . . .	375—377

## SIPHONAPTERA.

1. List of Siphonaptera collected in Eastern Hungary. (Illustrated.) K. JORDAN and N. C. ROTHSCHILD . . . . .	58—62
2. On Siphonaptera collected in Algeria (Plates VI.—XII.) KARL JORDAN and N. C. ROTHSCHILD . . . . .	357—372

## RHYNCHOTA.

1. Notes on the structure of the sexually modified segments of the <i>Cimicidae</i> (= <i>Cimicoridae</i> ), with special reference to <i>Cimicoris columbarius</i> (Jeannel). (Illustrated.) N. CHARLES ROTHSCHILD . . . . .	93—96
2. Notes on <i>Cimicoridae</i> , a family of Rhynchota, with the descriptions of a New Genus and Species. KARL JORDAN and N. CHARLES ROTHSCHILD . . . . .	352—356
INDEX . . . . .	379—403



LIST OF PLATES IN VOLUME XIX.

- I. *Mouius leuschi* Oust. and Grandid. By H. Grönvold.
- II. *Leucopsar rothschildi* and *Gracapica tertio*. By H. Grönvold.
- III. *Syntomidae*. By Horace Knight.
- IV. *Syntomidae* and *Aegyriidae*. By Horace Knight.
- V. *Syntomidae* and *Arctianae*. By Horace Knight.
- VI.—XII. Algerian Siphonaptera. By K. Jordan.
- XIII. *Syntomidae* (Genus *Balacra*). By Horace Knight.
- XIV. *Syntomidae* (Genera *Balacra* and *Metarctia*). By Horace Knight.

The Parts of this Volume were issued as follows :

- No. 1, containing pages 1—150, issued April 30th, 1912.
- No. 2, containing pages 151—377 and Plates VI.—XII., issued December 21st, 1912.
- No. 3, containing pages 379—403 and Plates I.—V. and XIII.—XIV., issued April 14th, 1913.

## ERRATA.

- Page 91, line 9 from bottom, and 92, line 10 from bottom, collector's name should be "Keysser" instead of "Keyser."
- .. 119—122, the Plates for this article are XIII. and XIV., and not "I. and II."
- .. 121, No. 15. This species is figured on Plate XIV, fig. 38.
- .. .. line 1, after "fig. 40," read "and ♀ fig. 39."
- .. 185, No. 167, the specific name should read *rosipennis* not *rosipennis*.
- .. 191, Nos. 49 and 50: the generic name should read "*Lorius*," not "*Lorius*."
- .. 312, line 1 from bottom read: nicht mehr instead of mehr nicht.
- .. 316, .. 6 .. .. .. *malayensis* .. .. *malayanus*.
- .. .. 15 .. .. .. *malayensis* .. .. *malayanus*.
- .. 324, .. 16 .. .. .. Siphia .. .. Syphia.
- .. 338, .. 3 .. top .. ♂ .. .. ♀
- .. .. 8 .. bottom .. Sangir: ♂ 163 .. .. Sangir: 163.
- .. 340, .. 13 .. .. .. junge Vogel .. .. Jungevogel.
- .. 341, .. 5 .. .. .. 1892 .. .. 1822.
- .. 345, .. 12 .. .. .. Mundspalte .. .. Mundspolte

# NOVITATES ZOOLOGICAE.

23 JUN 1912

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, F.R.S., PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XIX.

No. 1.

PAGES 1—150.

ISSUED APRIL 30TH, AT THE ZOOLOGICAL MUSEUM, TRING.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1912.

VOL. XIX.  
**NOVITATES ZOOLOGICAE.**

EDITED BY  
 WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN.

CONTENTS OF NO. I.

	PAGES
1. NEW <i>NOCTUIDAE</i> IN THE TRING MUSEUM, MAINLY FROM THE INDO-ORIENTAL REGION . . . . .	1—57
2. LIST OF SIPHONAPTERA COLLECTED IN EASTERN HUNGARY. ( <i>Illustrated</i> ) . . . . .	58—62
3. LIST OF THE <i>ANTHRIBIDAE</i> IN THE CONGO MUSEUM AT TERVUEREN . . . . .	63—67
4. NEW <i>GEOMETRIDAE</i> IN THE TRING MUSEUM FROM NEW GUINEA . . . . .	68—83
5. NOTE ON <i>CONURUS AERUGINOSUS</i> AND THE ALLIED SPECIES . . . . .	84—85
6. <i>CALIGULA</i> HYBR. <i>SALMONI</i> , A NEW HYBRID OF <i>SATURNIDAE</i> . ( <i>Illustrated</i> ) . . . . .	86—87
7. NEW <i>ANTHRIBIDAE</i> IN THE COLLECTION OF H. E. ANDREWES . . . . .	87—90
8. DESCRIPTIONS OF TWO GIANT RATS FROM NEW GUINEA PRESENTED TO THE BRITISH MUSEUM BY THE HON. WALTER ROTHSCHILD, F.R.S. . . . .	91—92
9. NOTES ON THE STRUCTURE OF THE SEXUALLY MODIFIED SEGMENTS OF THE <i>CLINICIDAE</i> (= <i>CLINOCORIDAE</i> ) WITH SPECIAL REFERENCE TO <i>CLINOCORIS COLUMBARIUS</i> (JENYNS). ( <i>Illustrated</i> ) . . . . .	93—96
10. NEUE APIONEN DES NORD- UND SÜD-AMERIKANISCHEN FAUNENGEBIETES ( <i>Illustriert</i> ) . . . . .	97—118
11. ON AN APPARENTLY NEW FORM OF <i>LAMBESSI</i> FROM ALGERIA . . . . .	118
12. A SYNONYMIC CATALOGUE OF THE <i>SYNTOMID</i> GENUS <i>BALACRA</i> WALK., WITH DESCRIPTIONS OF NEW SPECIES. (PLATES I. AND II.) . . . . .	119—122
13. NEW BORNEAN <i>AEGERIIDAE</i> AND <i>SYNTOMIDAE</i> . . . . .	122—124
14. NEW MAURETANIAN MOTHS . . . . .	125—127
15. SOME NEW <i>SPHINGIDAE</i> . ( <i>Illustrated</i> ) . . . . .	128—135
16. ON THE TERM "SUBSPECIES" AS USED IN SYSTEMATIC ZOOLOGY . . . . .	135—136
17. FORMOSAN <i>ANTHRIBIDAE</i> COLLECTED BY H. SAUTER . . . . .	137—145
18. SOME NEW ORIENTAL <i>ZYGAENIDAE</i> . . . . .	146—150



# NOVITATES ZOOLOGICAE.

Vol. XIX.

APRIL, 1912.

No. 1.

## NEW NOCTUIDAE IN THE TRING MUSEUM, MAINLY FROM THE INDO-ORIENTAL REGION.

By W. WARREN, M.A., F.E.S.

### SUBFAMILY ACRONICTINAE.

#### 1. *Canna javensis* spec. nov.

*Forewing*: differs from *splendens* Moore, which it most resembles, in the following particulars: the median and inner-marginal fasciae have the brown much mixed with green, especially towards costa; the inner edge of the median fascia is squarely angled below the subcostal vein, and its outer edge is oblique inwards at costa instead of outwards; both stigmata are more distinctly marked; the outer area is more uniformly green, the oblique streak from reniform to apex not being marked, and the inner-marginal band is more broadly interrupted by green towards the base.

*Hindwing*: white, with the submarginal fuscous band much reduced and restricted to the costal half of wing.

Underside with the ground colour whiter, the submarginal bands reduced to patches in costal half of wings; the patch at end of cell of forewing nearly obsolete.

Expanse of wings: 34 mm.

1 ♂ from Java.

#### 2. *Acronicta nigromaculata* spec. nov.

*Forewing*: white, the basal two-thirds more or less wholly suffused with olive-fuscous thickly speckled with black, which leaves pale spaces above median before and after inner line and at base of inner margin; costa at base, the base of cell, and submedian fold black to inner line, the pale space above it extending below cell to submedian fold and there white; space beyond inner line containing the round orbicular with brown centre, whitish annulus, and black outline; inner line black and double, squarely projecting outwards above vein 1; median line black and double, waved, more or less lost in the broad dark suffusion, which also envelopes the reniform, and is marked along submedian fold by blacker streaks continued vaguely to termen; outer line finely double, lunulate-dentate, followed by three dark blotches, one at costa and one on each fold, connected with a row of submarginal olive lunules, between which and a terminal row of black stud-shaped marks the narrow submarginal line lies; fringe chequered black and white.

*Hindwing*: white in ♂, fuscous grey in ♀, with dark cell-spot, outer line, veins, and terminal shade, which are all obscured in the darker ♀.

Underside white, suffused with fuscous in forewing, except the costal streak and inner-marginal area, speckled with fuscous in hindwing along costa only, with a dark bar from costa before middle, and the outer line marked by dark spots at and below costa and on each fold; the cell-spot large and dark in both wings.

Head and thorax whitish, mixed and lined with olive-fuscous, the abdomen grey; palpi externally with second segment black, its tip and the third segment pale grey; tarsi spotted black and white.

Expanse of wings: 40 mm.

2 ♂♂, 2 ♀♀ from the Khasia Hills (types), the ♂♂ taken in February and May 1896, the ♀♀ in October and November 1895; 1 ♂ from Darjiling (F. Möller); 1 ♂ Sikkim, April 1888 (Col. Pileher).

### 3. *Thalatha argentea* spec. nov.

*Forewing*: silvery white; the narrow basal patch, reaching from margin to margin, a truncated conical patch on costa before middle, a triangular patch on inner margin at middle, and a diffusely edged smaller patch on costa before apex, black; a slight brown smudge on termen between veins 3 and 5; a few scattered black scales above anal angle; fringe mottled black and white.

*Hindwing*: dark fuscous grey, paler towards base and inner margin, darkest apically; fringe dark, paler at anal angle.

Underside glossy iron-grey in forewing; the costa sprinkled with white scales, and with a small white spot at three-fourths and a white streak just before apex; fringe with white chequering along base; hindwing whitish, with the central area and apex bronzy grey speckled with white; a dark cell-spot and outer line.

Palpi black, with the tips of second and third segments white; head and shoulders, and the metathoracic tuft white, the shoulders tipped with rufous; thorax black; abdomen fuscous grey; pectus, legs, and venter black; the legs dotted with white.

Expanse of wings: 24 mm.

2 ♂♂ from British New Guinea, from Welsch River (type) and Aroa River respectively (Weiske).

## SUBFAMILY MOMINAE.

### 4. *Trisuloides pygaria* spec. nov.

*Forewing*: fuscous grey, with darker fuscous suffusion in parts; the oval space before outer line from subcostal vein to vein 3, the filling up of outer line itself, and the subterminal line below vein 5 whitish; inner line blackish, inwardly pale-edged, waved and oblique outwards; median shade thick, strongly developed, oblique outwards to below vein 3, then oblique inwards; orbicular stigma round, filled up with brown; reniform a narrow grey lunule with pale edging; inner arm of outer line dark grey; outer arm fine, but swollen into a brownish blotch on submedian interval; subterminal line from costa to vein 5 thick and black; terminal lunules brown edged with white; fringe yellowish at base, grey at tips.

*Hindwing*: yellow; a fuscous terminal border, of even width from costa to vein 3, the inner edge only continued to anal angle; the fuscous terminal lunules broadly edged with pale yellow; fringe mottled yellow and fuscous.

Underside yellow; the forewing with the costal streak, a large blotch on discocellular, and the rest of wing to subterminal line, except along inner margin,

blackish fuscous ; a yellow blotch beyond cell ; the outer and subterminal lines paler ; hindwing with the costal area and the terminal third of wing black and white speckled ; two black lines from costa ; the first, before middle, short, coalescing with the black cell-mark ; the second, from middle, curved to vein 3 ; fringe yellowish grey.

Face, vertex, and antennal tuft pale ochreous ; palpi in front pale ochreous, externally black, the terminal segment wholly black ; shoulders yellower ochreous ; thorax olive grey mixed with yellowish ; abdomen dingy grey, the anal segments thickly clothed with masses of grey woolly down ; pectus and legs ochreous ; the tarsi black spotted with ochreous ; antennae black, shortly pectinated.

Expanse of wings : 66 mm.

1 ♀, considerably worn, from Benkoelen, W. Sumatra (Ericsson).

Differs from typical *Trisuloides* in the antennae (♀) being pectinated instead of simply serrate and in the wooliness of the anal segments.

#### 5. *Trisuloides papuensis* spec. nov.

*Forewing* : fuscous varied with black and white dusting, but, except in the terminal area beyond subterminal line, without the brown tinge of *sericea* Btlr., which it otherwise much resembles ; the inner black line is more oblique inwards, and straighter, less wavy ; followed by a black median shade, which at costa is oblique inwards, is then curved outwards and lunulate-dentate to vein 2, then inbent and ending on inner margin as a diffuse shade beyond inner line ; orbicular stigma absent in the only specimen ; reniform indicated only by a brown bar ; outer line lunulate-dentate, double, filled in with white instead of brown, and without the large whitish lunule beyond it on submedian fold ; subterminal line also narrowly white, the space between them brownish fuscous thickly irrorated with bluish white ; the space beyond cell before the outward curve of outer line diffusely whitish ; a triangular patch of white scaling beyond subterminal line on submedian fold ; fringe brown, dark mottled, white beyond the submedian interval.

*Hindwing* : brownish fuscous, with the centre dull yellow, running through from costa to inner margin above anal angle ; a small white triangle on termen in submedian interval, with the fringe beyond it white.

Underside with all the markings blurred and confused ; the basal two-thirds dull yellow, the outer third dark fuscous and brown ; a diffuse dark median cloud across discocellular ; the outer line dark above the submedian fold ; the white marks present at anal angle in both wings.

Face, vertex, and palpi fuscous and ochreous, the palpi externally browner ; shoulders paler ; thorax and abdomen fuscous grey and ochreous ; the dorsal tufts darker ; pectus, venter, and legs brownish.

Expanse of wings : 50 mm.

One ♂ from Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

#### 6. *Trisuloides polyphaenaria* spec. nov.

*Forewing* : greyish ochreous with a faint olive tinge ; the markings olive green ; basal patch olive, its edge slightly curved, nearly vertical, followed by an olive green line ; median shade olive green, oblique outwards from costa to median, then

less distinct and oblique inwards; the dark green eell-spot lies on its upper arm; outer line dark olive, double, filled in with pale, oblique outwards to 6, vertical to 4, then incurved; the inner arm lunulate-dentate, the outer obscured by the olive shade following, which is itself obsolescent below vein 4; this shade is limited externally by the pale subterminal line, which is oblique inwards to vein 7 and angled outwards on veins 6 and 4: terminal area beyond it, especially at apex, brownish olive, below the middle all the markings are pale and blurred; a row of terminal olive lunules; fringe olive and greyish ochreous.

*Hindwing*: bright yellow, with a broad greenish fuscous terminal border, indistinct below 3; olive green pale-edged terminal lunules; fringe pale grey.

Underside yellow in basal areas, the outer fawn-colour speckled with grey; costa of forewing fawn-colour; a diffuse blackish blotch on discocellular of forewing, and a less distinct blotch on hindwing from costa over end of cell; a dark olive fuscous fascia in forewing beyond outer line.

Head, forelegs, and thorax pale fawn-colour, the face and outside of palpi browner; legs brownish fawn; the abdomen is entirely denuded of scales.

Expanse of wings: 46 mm.

One ♀ from Palaboehan, Ratoe, Java, Wynkoopsbaai (Fruhstorfer).

Differs from typical *Trisuloides* in the antennae of the ♀ being almost simple, with a few short bristles, but without visible serrations.

### 7. *Trisuloides albiplaga* spec. nov.

*Forewing*: red-brown with some white irroration along costa and inner margin, and black and white dotting along veins, towards inner margin with dark and pale speckling; inner line black, oblique from costa to submedian fold, thence inwardly oblique, edged on each side by lines of white and red-brown scales, followed by a short streak of white and reddish scales along submedian fold; outer line black, lunulate, bent at vein 4, followed by a snow-white line and preceded from costa to vein 5 by a white line swollen into a blotch between veins 5 and 7, and running inwards along vein 5 to below reniform: the stigmata large and dark with thick black outlines; subterminal line reddish brown mixed with white, whiter at each margin, sharply inangulate on vein 7 and indented only on vein 1, preceded by large dark wedge-shaped spots between the veins, edged with reddish, and on costa by a black blotch reaching outer line; terminal black lunules edged by white and reddish scales; beyond submedian fold a black triangle; fringe brown, varied with pale scales.

*Hindwing*: orange with broad black terminal border narrowing off to an angle; fringe mottled brown and white.

Underside orange at base between subcostal vein and submedian fold in forewing, in hindwing along inner margin from costa to terminal border; outer two-thirds of forewing fuscous with a broad oblique white band from costa beyond middle to vein 3, and a white erect spot at anal angle; hindwing with a large fuscous blotch from costa to discocellular and a broad terminal border, preceded from costa to vein 3 by a broad white blotch.

Face and vertex fuscous with the sides whitish; palpi white in front, the terminal segment and second segment externally blackish; shoulders fuscous, with the bases and tips ochreous; patagia olive brown, darker at base, the tips in places white; dorsum orange with the line of tufts and the anal segments fuscous;



venter blackish, with white segmental rings; pectus dull orange; legs ochreous thickly dusted with brown.

Expanse of wings: ♂ 66 mm.; ♀ 70 mm.

2 ♂♂, 5 ♀♀ from the Khasia Hills, Assam (type); one ♂ from Darjiling (F. Möller). The last is smaller, and less distinctly marked.

The ♀ has the antennae almost simple, with a few short bristles.

8. **Tambana nigra** spec. nov., and subsp. **fuscipennis** subsp. nov.

*Forewing*: purplish black; the lines, which are double, the edges of the stigmata, and the praesubmarginal shade deep black; the narrow terminal area, the centres of stigmata, and the costal spots dark grey; the inner and outer lines conversely lunulate-dentate; a dark median shade; fringe purple grey.

*Hindwing*: yellowish straw-colour, deeper yellow in the ♀; veins towards termen black; fringe black; a fuscous terminal border, ill-defined in the ♂, complete in the ♀.

Underside of forewing dull blackish, the cells and inner margin dull straw-colour; of hindwing mainly straw-colour, becoming blackish terminally; both wings with large diffuse discal blotch and dark outer line; fringe dotted with white beyond the veins.

Head, thorax, and legs blackish mixed with pale grey hairs; abdomen black, its sides in basal half with luteous hairs; pectus woolly, olive grey.

Expanse of wings: 46 mm.

2 ♂♂, 1 ♀ from the Khasia Hills, Assam.

In the form from Burma—subsp. *fuscipennis* subsp. nov.—the upperside of hindwing and the undersides of both wings are dingy fuscous with a luteous tinge; the outer line on both wings on underside is more strongly bent at middle.

Expanse of wings: 59 mm.

1 ♀ from Bernardmyo, Burma, 7000 ft., May 1890 (W. Doherty), from the Elwes Collection.

9. **Tambana pallidipennis** spec. nov.

*Forewing*: like *nigra*, but the ground colour paler, greyer; the black suffusion not so complete; the lines filled up with pale grey.

*Hindwing*: uniform pale straw-colour, with the fringe dark fuscous; in some cases, especially in the ♀♀, with traces of a faint subterminal shade.

Underside dirty straw-colour; a diffuse dark discal blotch in forewing; the outer lines and terminal border fuscous.

Head, thorax, and legs blackish with a stronger admixture of pale hairs; the hair at base of abdomen at the sides paler.

Expanse of wings: 46 mm.

10 ♂♂, 3 ♀♀ from Java: Pengalengan, Preanger; Bandung; Palaboehan.

SUBFAMILY EUXOINAE.

10. **Euxoa fumipennis** spec. nov.

*Forewing*: luteous grey, suffused throughout with deep smoky blackish, the paler ground colour showing as a diffuse band only beyond outer line; markings much as in *E. radians* Guen. from Australia, Tasmania, and New Zealand; the filling up of the inner line, the median nervure, the annulus of the orbicular stigma,

and the subterminal line are all pale and distinct; the last sometimes broken up into separate spots; a thick, blackish, nearly vertical, median shade passes over the reniform.

*Hindwing*: white, the veins strongly brown; the whole wing, except the cell and space beyond it, tinged with pale fuscous, more thickly along the margins; the termen with a broad diffuse blackish border, partially darkening the fringe.

Underside of forewing dull grey with the termen darker; of hindwing white with all the margins blackish.

Head, thorax, and abdomen all dark fuscous blackish.

Expanse of wings: 42 mm.

4 ♀♀ from Lifu, Loyalty Islands.

Larger and darker than *radicans*, to which it is nearest allied.

#### 11. *Rhyacia spilosata* spec. nov.

*Forewing*: uniform dull grey-brown, with all the markings obscured; orbicular and reniform stigmata filled up with darker, without distinct annuli or outlines; inner and outer lines conversely dentate-lunulate, the teeth of the former pointing basewards; those of the outer, as usual, double; subterminal line marked by a double row of brown spots, the inner between, the outer on, the veins; a row of terminal black dots; the terminal area narrowly darker.

*Hindwing*: somewhat paler than forewing; the fringe concolorous.

Underside of forewing dark, of hindwing paler; the latter with cell-spot and outer line.

Head, thorax, and abdomen all concolorous.

Expanse of wings: 36 mm.

1 ♂ without locality, from the Elwes Collection; 1 ♀ from Phallaloong on the Nepal frontier, taken at an elevation of 12,600 ft., July 1905.

#### 12. *Rhyacia papuana* spec. nov.

As large as *triangularis* Moore, which it most resembles.

*Forewing*: purplish brown, without the reddish tinge of *triangularis*; the costal streak broadly pale to beyond the reniform; the two stigmata pale, both confluent above with the streak, and both touching median vein below; the cell blackish throughout; claviform stigma pale, with diffuse dark purplish outline; outer line purplish, lunulate-dentate; the submarginal preceded by a row of dark lunules.

*Hindwing*: dull pale grey, darker towards termen, showing a dull grey cell-spot and outer line.

Palpi externally, vertex of head, collar, the thorax and patagia deep brown-black; tips of palpi, face and tegulae rufous ochreous mixed with grey, the tegulae with a broad but diffuse blackish middle line; abdomen furry grey.

Expanse of wings: 42 mm.

1 ♂ from the Augabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek).

#### 13. *Rhyacia praetermissa* spec. nov., and subsp. *insulata* subsp. nov.

*Forewing*: purplish fuscous in the ♀, pale reddish brown in the ♂; costal streak whitish from base to reniform stigma, dotted with grey, sometimes pink-

tinged, plainer in ♀ than ♂ ; lines finely black, conversely edged with paler ; the inner oblique and double, the internal arm slender, preceded by a diffuse grey space; the outer lunulate-dentate ; submarginal obscurely paler, indicated by the terminal area beyond it being darker, preceded at costa by a black bar; cell and a blotch at base of submedian fold blackish ; orbicular stigma pale, dependent from the costal streak, rounded triangular ; reniform with pale curved inner edge.

*Hindwing* : fuscous grey, paler basewards.

Underside with outer line and cell-spot on both wings.

Head, palpi, and patagia purplish grey ; tegulae ochreous, with two rufous lines and the tips velvety black ; abdomen, underside, and legs brownish grey.

Expanse of wings : 42 mm.

1 ♂, 3 ♀ from the Nilgiri Hills ; 1 ♂ from Ooty, S. India.

Closely allied to this species, but differing in being slightly smaller, with the hindwings pale at base, 2 ♀♀ from Bonthain, Celebes, taken between 5000 and 6000 ft., October 1895, by A. Everett, may for the present be separated as subsp. *insulata* subsp. nov.

#### 14. *Rhyacia stigmatias* spec. nov. and ab. *pallidistigma* ab. nov.

*Forewing* : of ♂ pale lilac grey or luteous grey, dusted with darker and more or less strongly tinged with pink ; of ♀ wholly dull brick-red ; costal edge red ; the lines dark, marked by dark spots on costa, disposed as in the allied species, but rarely clear ; the outer line outcurved and emitting rather long dark teeth on the veins ; stigmata of the pale ground colour edged with brown ; the lower half of reniform always black in the ♂, unicolorous in the ♀ ; subterminal line sometimes indicated by a dark shade on each side ; fringe reddish with a dark marginal festoon in the pale grey examples, without the festoon in the red forms of the ♂, and in the ♀♀.

*Hindwing* : pale luteous grey.

The colouring of the thorax varies with that of the forewing.

In the ab. *pallidistigma* ab. nov. all three stigmata are pale ochreous, and the lower half of the reniform stigma velvety black.

Expanse of wings : 32—36 mm.

6 ♂♂, 3 ♀♀ from the Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905, and 1 ♂ from Biagi, Mambare River, 5000 ft., April 1906 (A. S. Meek).

#### 15. *Rhyacia griseithorax* spec. nov.

*Forewing* : pale lilac grey with a faint greenish tint ; the speckling and lines olive brownish ; inner and outer lines double, filled in with pale grey ; the inner strongly angled outwards below vein 1 ; outer line sinuous, followed by black and white dashes on veins ; submarginal line double, brown filled in with paler, hardly bent, preceded by a chocolate brown costal shade ; stigmata all large, grey with paler annuli and brown outlines, the claviform reaching to beyond orbicular, and the reniform produced inwards along median vein ; fringe brown and grey, with a bright rufous white basal line ; costal edge pale greenish ochreous for three-fourths.

*Hindwing* : fuscous grey, dark before termen ; fringe white, tinged with rufous.

Underside blackish grey ; costa of both wings and termen of forewing broadly brick-red.

Face, shoulders, patagia, and thorax very pale greenish grey; dorsum darker grey tinged with red; venter, pectus, inside of legs, and palpi externally deep red; tips of palpi reddish ochreous.

Expanse of wings: 30 mm.

2 ♀♀ from the Khasia Hills, Assam.

#### 16. *Rhyacia mundipennis* spec. nov.

*Forewing*: pale clear ochreous, only the costal streak and the basal area grey-brown; lines scarcely visible, but the inner line appears to be toothed outwardly above and below vein 1; claviform stigma with a dark dot at its apex; orbicular a flattened oval, the centre blackish in a wide ochreous ring, outlined with pale brown; reniform an oblique figure of 8, filled up with black in an ochreous ring, of which only the inner half is wide and edged with brown; slight black-brown streaks at termen on veins 6, 5, and 2, and slighter ones on vein 1 and the submedian fold; those on 6, 5, connected by faint brown streaks with the reniform: fringe ochreous, scantily mottled with brown.

*Hindwing*: pale ochreous with slight brown terminal dashes; fringe ochreous.

Underside ochreous, with the costal half of forewing and costal edge in hindwing dull brownish.

Head, palpi, and tegulae pale ochreous, tinged with rather bright fulvous; thorax and patagia dark brown; abdomen dark grey.

Expanse of wings: 30 mm.

1 ♀ from Bandong, Java.

#### 17. *Hermonassa stigmatica* spec. nov.

*Forewing*: olive-fuscous, often with a slight reddish tinge; the lines pale; the subbasal and inner distinctly edged with black, the former emitting along subcostal vein a sharp, pale, angulated line towards the latter; outer line dentate-lunulate; the subterminal preceded by a dark shade; all three stigmata large, black, and distinct, broadly outlined with ochreous.

*Hindwing*: dirty whitish, sometimes tinged or even suffused with grey in the ♀.

Underside of forewing brownish grey, the costa ochreous speckled with rufous; an obscure dark cell-spot and outer line: of hindwing whitish with blackish cell-spot and an outer line from costa to vein 6; costal area broadly ochreous, flecked with fuscous.

Head and thorax concolorous with forewing; the abdomen greyer; the legs redder.

Expanse of wings: 30—32 mm.

4 ♂♂, 4 ♀♀ from Bhutan (type); 1 ♀ Darjiling, April 1889 (Pilcher); 1 ♂ Darjiling (Dr. Lidderdale); 10 ♂♂, 1 ♀ Darjiling (F. Möller); 1 ♂ Naga Hills, July—August 1889 (W. Doherty).

#### 18. *Hermonassa furva* spec. nov.

*Forewing*: dull brick-red with an olive tinge; all the lines and markings blurred and obsolescent; the lines accompanied by dull lustrous bluish scales, more especially the outer line; costa marked by blackish spots edged with

bluish scales at the origin of the lines; stigmata black, with diffuse out jae; the claviform apparently continued inwards to base; the orbicular diffusely elongate; the reniform lunate, more conspicuous, limited inwardly by a grey crescent; a row of distinct black terminal lunules.

*Hindwing*: dull whitish.

Underside of forewing olive brown; the costal edge from before middle to apex pink; of hindwing whitish, the costal region pale greenish brown.

Head, thorax, pectus, and legs reddish; the abdomen reddish grey.

Expanse of wings: 32 mm.

3 ♂♂ from the Kulu district, The Punjab, N. India.

#### 19. *Hermonassa lineata* spec. nov.

*Forewing*: olive brown, speckled and shaded in places with darker; all the veins and outlines of the three stigmata finely pale ochreous; the stigmata large and well-defined; lines all pale ochreous and distinct, edged with dark; the outer dentate-lunate, oblique inwards below vein 5 to just beyond middle of inner margin; a row of dark terminal lunules; fringe brown, like wings.

*Hindwing*: uniform dull luteous grey.

Underside of forewing dark grey, the costa ochreous towards base, becoming reddish at one-third; of hindwing silky whitish, the costal area ochreous, dusted with olive scales, with traces of the commencement of a dark outer line and submarginal shade.

Head and thorax dark glossy red-brown; tegulae pink-edged; dorsum greyish fuscous, the anal tuft rufous; legs dark red-brown; venter and pectus and the tibial tufts bright rufous.

Expanse of wings: 40—44 mm.

2 ♂♂ from Tonglo, Sikkim, 10,000 ft., July 1886 (H. J. Elwes).

Distinguished by its large size and conspicuous markings.

#### 20. *Eurois perviridis* spec. nov.

Smaller than either *circens* Btlr. or *magnifica* Moore; the green scaling predominant throughout the wing; veins and centres of upper stigmata lilac grey, speckled with black; the cell black; claviform stigma quite small, green with black outline; the other stigmata without any red scaling; the black wedge-shaped marks before subterminal line complete and distinct.

*Hindwing*: fuscous grey, darker terminally; the fringe white.

Expanse of wings: 56 mm.

#### 21. *Ectopatria renalba* spec. nov.

*Forewing*: brownish fuscous, faintly rufous-tinged; in basal area and along costa paler, being much mixed with whitish scales; inner and outer lines black, conversely pale-edged, the outer lunate-dentate; orbicular and reniform stigmata with rufous brown centres and pale annuli defined by black; the orbicular round, small and indistinct; the reniform deeply indented on outer edge at middle; the annulus broadly white, with a white spot on costa above it; subterminal line pale, interrupted, preceded and followed by black streaks in the intervals; those below veins 5 and 6 continued to outer edge of reniform stigma; a row of black lunules along termen; fringe brown, with pale line at base.

*Hindwing* : fuscous, with the basal half whitish.

Underside of hindwing white, with the terminal border fuscous.

Head and thorax like forewings; abdomen greyer, whitish beneath.

Expanse of wings : 30 mm.

1 ♀ from Tasmania, 1891 (Barnard Coll.).

#### SUBFAMILY HADENINAE.

##### 22. *Craterestra postlineata* spec. nov.

Resembles *C. bifascia* Hmps. from S. India, but only two-thirds of the size.

*Forewing* : brownish fuscous, the costal streak pale with ochreous lines as in that species, but the inner margin remains of the dark ground colour except at anal angle; the orbicular and reniform black in the brown ground colour in the ♂, partly in the paler costal area in the ♀; outer line of points sometimes continuous, the line being dentate-lunulate; terminal spots black; fringe brown.

*Hindwing* : dull whitish, with dark cell-spot and outer line of points before the darker shaded terminal border; fringe grey; in the ♀ the whole inner margin from base widening to termen is pale red-brown.

Underside of forewing grey, tinged with ochreous and dark-dusted along costal streak, whitish towards inner margin; of hindwing whitish, brown-speckled along costa; terminal area of both wings darker grey, outer lines and terminal spots black and distinct; a black cell-spot on hindwing.

Head and thorax black; abdomen red-brown; pectus, legs, and venter blackish; underside of thorax pale.

Expanse of wings : 26 mm.

2 ♂♂, 1 ♀ from the Elwes Collection, from Mandi, N.W. Himalayas, 3000 to 5000 ft. (Sir G. Young), 1883.

##### 23. *Craterestra scalata* spec. nov.

*Forewing* : ochreous tinged with brownish or pinkish; the base of cell, a broad streak along median and another with irregular edge along inner margin and the termen broadly blackish brown, the latter limited above by an oblique line from apex to vein 4, followed by a yellower oblique pale space from costa to median, crossed by distinct black veins and grey interspaces; a white dot at lower end of reniform; the inner and outer lines slightly marked by black dots; fringe black brown.

*Hindwing* : white, with a slight irregular grey border as far as vein 1; some black terminal dots; fringe grey above vein 1.

Underside of forewing grey-brown, paler along inner margin; of hindwing whitish, tinged with grey-brown at apex; fringe of both wings brown.

Head and thorax greyish ochreous, the dorsum darker; palpi externally blackish.

Expanse of wings : 26 mm.

2 ♀♀ from Mt. Marapok, British North Borneo.

##### 24. *Tiracola rufimargo* spec. nov. and abb. *grisescens*, *pallidistigma*, and *venata* abb. nov.

*Forewing* : greyish ochreous faintly tinged or often wholly suffused with deep pink; the costal edge often whitish; sometimes the median area, at others the

terminal, more rarely both, deeper red or brownish red ; lines marked by black vein-dots, those of the inner line sometimes connected by a grey thread ; orbicular stigma a white dot ; reniform conspicuous ; the inner edge consisting of a narrow black crescent with grey scales preceded by five velvety red-brown or black-brown spots ; the outer edge also of five spots, the two between veins 5 and 6 confluent ; joined at the inner lower end by an oblique black bar from costa, representing the upper part of median shade ; submarginal line inconspicuous, slightly paler with darker edges ; apex always pale ; the whole wing is covered with faint elongate striae of dull olive scales mixed with black atoms ; fringe concolorous, with a bright pale line at base beyond a row of dark terminal dots.

*Hindwing* : dull greenish fuscous, the costal area above vein 6 and the terminal area dull pink ; the fringe pinkish grey, beyond black terminal spots.

Underside of forewing deep pink with the costal and terminal margins ochreous ; of hindwing ochreous with the costal and terminal margins reddish speckled with dark.

Head and thorax concolorous with forewing, the dorsum always greyer, but laterally pinkish ; palpi externally, except terminal segment, deep red-brown or blackish.

Expanse of wings : 50—58 mm.

7 ♂♂, five from Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (type), and two from the Upper Aroa River, April 1903 (A. S. Meek).

Of this species, separable at once by the deep pink margins of hindwing from *T. plagiata* Wlk.—which species also occurs in New Guinea—three quite distinct aberrations come from the same locality.

The first—ab. *griseescens* ab. nov.—has the whole forewing olive grey, with the costal edge whitish and dotted with black ; the lines less distinct, except the teeth of the outer line ; the reniform stigma and costal bar equally obscured ; the hindwing with the fuscous and pink areas both darker and more contrasted.

6 ♂♂, 1 ♀ of this form from Biagi, all slightly smaller than the typical form.

The second—ab. *pallidistigma* ab. nov.—is larger than the type form, the forewing suffused with deeper red and darkened by olive-fuscous striations and black atoms ; the dots of the lines accompanied by dark shades ; the median shade dark and diffuse throughout, the upper arm not forming a black bar ; reniform stigma filled up with whitish ochreous more or less mixed with grey and outlined with dull red-brown ; the subterminal line paler and more conspicuous ; the whole underside deeper red.

5 ♂♂, 1 ♀ from Biagi ; the single ♀ smaller and duller than the ♂♂.

The third—ab. *venata* ab. nov.—is a development of the last, being darker, owing to the greater intensity of the olive-fuscous striations ; the median area and the terminal as well is deeper than the rest of the wing ; the subterminal line standing out finer and paler ; the centre of the reniform stigma darker grey, while the median shade is sometimes continuous across wing, at others confined to the dark costal portion ; the veins, especially towards termen, are finely whitish.

2 ♂♂, 1 ♀ from Biagi, and 1 ♀, smaller and paler, from the Upper Aroa River.

#### Genus *Hypopteridia* gen. nov.

Differs from *Dasygaster* Guen. in the abdomen of the ♂ being elongate, with the anal and praeanal segments clothed with very long tufts of hair, and without the shaggy lateral tufts which distinguish that genus ; while the thorax beneath bears

large lateral tufts, expansible as winglets, beneath the hindwings; the antennae of the ♂ are ciliated and armed with bristles; the termen of hindwing is strongly excised between apex and middle.

Type : *H. reversa* Moore.

25. **Sideridis lineatissima** spec. nov.

*Forewing* : ochreous grey with numerous black speckles ; veins all finely white, the intervals with rufous grey lines ; median vein white in outer half, thickening towards end of cell, where it is slightly hooked, preceded by a minute dark dot, and followed by dark scaling on each side of vein 4 at base ; the orbicular and reniform stigmata diffusely yellowish ; lines marked, as usual, by blackish vein-spots ; a pale yellowish space above vein 1 from base to inner line ; a diffuse pale streak from apex, with a dark terminal triangle beyond it above vein 4 ; a row of minute dark terminal dots ; the alternate dark and light lines of the wing continued through the fringe.

*Hindwing* : blackish fuscous, with some black terminal dots ; fringe white with a grey line beyond middle.

Underside pale ochreous speckled with blackish ; the forewing suffused with fuscous in and beyond cell ; a dark outer line starting from a black costal spot, becoming punctiform on hindwings ; terminal spots black ; fringe concolorous.

Head, thorax, and abdomen grey tinged with rufous, the dorsum with dark grey ; palpi externally brown.

Expanse of wings : 46 mm.

1 ♀ from Darjiling (F. Möller).

26. **Hyphilare binigrata** spec. nov.

*Forewing* : grey drab speckled with fuscous ; the cell and space beyond ochreous without dusting ; the costal area usually somewhat greyer ; inner and outer lines marked by dark spots on veins, the outer widely double ; reniform stigma pale with a round black dot at its lower end, followed between the bases of veins 3 and 5 by a quadrate black blotch with diffuse outer edge ; the subterminal line hardly marked ; terminal dots small and black ; fringe iron-grey.

*Hindwing* : dark fuscous terminally, becoming whitish towards base ; the cell-spot and veins darker, the fringe whitish.

Underside of both wings of ♂ silvery whitish, of ♀ glossy ochreous grey ; terminal dots in both wings, the cell-spot in hindwing, and a costal spot at two-thirds in forewing black.

Head, thorax, abdomen above and below, and legs all greyish ochreous, like the forewings ; the ventral tufts in ♂ black.

Expanse of wings : 34 mm.

2 ♂♂, 2 ♀♀ from the Khasia Hills, a pair dated October 1895, and 1 ♂ Shillong May 1893.

27. **Hyphilare ossicolor** spec. nov.

*Forewing* : bone-colour with slight dark dusting and a very faint tinge of rufous terminally ; inner line marked by dark points on veins, oblique to submedian fold, then bent inwards ; outer line lunulate-dentate, appearing double, the teeth on the veins forming the outer and the lunules between them the inner arm ; reniform stigma paler with a dark dot at lower end and slight grey cloud beyond ; the



end of the median vein whitish ; a slight oblique grey shade from apex ; a row of distinct black terminal dots ; fringe concolorous.

*Hindwing* : dark grey ; the costal third bone-colour ; a dark cell-spot and the veins darker ; in the ♀ a dark curved outer line, followed by a darker border ; fringe bone-colour.

Underside bone-colour ; the cell of forewing dark grey, and in the ♀ a dark grey outer line in both wings ; terminal black spots ; a dark cell-spot in hindwing ; costa of both wings pale brownish speckled with black.

Head, thorax, and abdomen bone-colour ; ventral tuft blackish.

Expanse of wings : ♂ 36 mm. ; ♀ 40 mm.

1 ♂, 1 ♀ from Darjiling ; the ♂ captured by F. Möller, the ♀ by Knyvett, May and June 1889, 7500 ft.

Allied to *tharistigma* Brem. and *inornata* Leech.

#### SUBFAMILY CUCULLIANAE.

##### Genus *Isolasia* gen. nov.

Allied to *Eluesia* Hmps., with which it agrees in the main, and especially in the upstanding prothoracic crest ; but the dorsum is also strongly tufted with similar long spatulate-tipped hairs ; the praeanal segments of the abdomen are armed with lateral tufts of hair, which are equally strong in the ♀ and in the ♂ ; pectus and femora densely woolly ; termen not so deeply crenulate as in *Eluesia*. Type : *Isolasia biramata* spec. nov.

##### 28. *Isolasia biramata* spec. nov.

*Forewing* : pale ochreous, slightly rufous-tinged, with the basal area to beyond middle of inner margin, a triangular blotch on middle of costa, and the terminal area beyond subterminal line dark brownish fuscous ; the pale ground colour therefore forms a large V, of which the longer outer arm runs from before apex to inner margin and the shorter inner arm begins with the pale orbicular stigma ; the lines pale with dark edging ; the subbasal angled ; the inner oblique outwards, hardly waved ; the outer forming outer margin of the costal triangle and marked as two dark lines across the shorter arm of the V ; subterminal line edged outwardly by the dark terminal area, sometimes bright ochreous, preceded by brown wedge-shaped spots ; reniform stigma obscured by the brown of the costal triangle, but slightly edged with ochreous ; a wavy dark terminal line ; fringe fuscous brown with pale chequering and pale basal line.

*Hindwing* : brownish grey, paler towards costa, with dark cell-spot and terminal line.

In the ♀ the contrast between the dark and light areas is less conspicuous, the ochreous ground being browner and the fuscous areas paler and more broken up ; the reniform stigma pale ; the hindwing more uniformly fuscous.

Underside pale ochreous in the ♂, greyer ochreous in the ♀, dusted with fuscous and rufous ; cell-spots and outer line dark brown.

Head, thorax, and abdomen brown with ochreous speckling ; the lateral tufts of abdomen rufous.

Expanse of wings : 36 mm.

1 ♀ from Sikkim (O. Möller), 3 ♂♂ from Sikkim (Darjiling), taken by Col. Pilcher in August 1889,

## SUBFAMILY AMPHIPYRINAE.

29. *Dipterygia multistriata* spec. nov.

♀. *Forewing*: pale grey-brown suffused with fuscous in the basal two-thirds, and in terminal third dusted with bright pale scales; inner line black, forming strong outward teeth in the intervals; the outer line lunulate-dentate, excurved above middle; subterminal line pale brown, preceded and followed by black streaks in the intervals from apex to inner margin, the veins also showing finely black; the space beyond outer line from inner margin to vein 2 and to vein 3 at termen paler brown streaked with fulvous; the upper stigmata pale brown defined by darker; in the ♂ the fuscous suffusion is darker and embraces almost the whole wing except the pale area round anal angle, and the markings are consequently much obscured.

*Hindwing*: pale luteous, whiter towards costa, slightly suffused with brownish, which is deeper along termen and inner margin; a dark cell-spot, veins, and outer line; fringe paler.

Underside of forewing dull grey-brown, slightly dusted with ochreous; the costa and some streaks at termen above anal angle ochreous; hindwing ochreous, dusted and streaked with reddish along costal and apical areas; a large dark cell-spot, and rufous outer line in costal half.

Head, shoulders, and patagia fuscous brown; lower half of face ochreous; thorax pale brown; dorsum ochreous diffused with grey; pectus ochreous; legs blackish ringed with ochreous.

Expanse of wings: ♂ 38 mm.; ♀ 42 mm.

1 ♂, 1 ♀ from Sikkim; the ♂ taken by O. Möller in June 1888, the ♀ by Col. Pilcher in June 1889.

Nearest apparently to the Bornean *exiguita* Wlk.; easily distinguished by the pale hindwings with dark cell-spot and the absence of a pale streak along inner margin of forewing.

30. *Stenopterygia commixta* spec. nov. and ab *atribasalis* ab. nov.

*Forewing*: brown, speckled and clouded with darker brown, and in parts suffused with brownish fuscous; a slight leaden purplish patch at base of vein 1, and another on the same vein beyond outer line; lines black and double at costa, the inner and median partly filled in with blackish, the median separating the pale brown stigmata and sometimes forming a dark patch in submedian interspace; a black streak above inner margin before inner line, stronger in the ♀; outer line strongly lunulate-dentate; subterminal line pale brown, interrupted, with a pale patch above vein 4, crossed by darker streaks above veins 3 and 5; the anal angle and terminal area, especially in the ♀, suffused with darker; terminal black lunules; fringe dark brown.

*Hindwing*: dark brownish fuscous, with the fringe paler.

In the ab. *atribasalis* the whole basal two-fifths, except narrowly along inner margin, is suffused with black, obscuring all markings, the terminal area and space before anal angle being also clouded with dark. This may be a distinct species.

Underside dark brown, the costa in both wings with pale speckling; hindwing with basal half ochreous and a large dark cell-spot; both wings with diffuse darker outer line.

Head and thorax of ♂ pale and dark brown mixed ; the dorsum greyer ; pectus and femora and underside of palpi ochreous ; legs black ringed with ochreous ; in the ♀ the shoulders and patagia are dark.

Expanse of wings : 34 mm. ; the aberration 37 mm.

1 ♂, 3 ♀ ♀ from Penang (Curtis).

### 31. *Sasunaga interrupta* spec. nov.

Resembles *leucorina* Hmps. and *olivaria* Hmps. in both sexes, but certainly distinct. The ♂ is larger, with pale ochreous ground colour ; an oblique black streak above inner margin before inner line ; the cell black before and beyond orbicular stigma, which is grey, small, and quadrate ; reniform inwardly brown, outwardly diffuse and jagged ; outer line, instead of showing the strong curve beyond cell, always interrupted by olive brown and pale horizontal stripes and the black veins ; a pale streak from reniform along vein 5, continued beyond subterminal line to termen ; ♀ with the broad white streak from base cut by the dark median line, beyond which the streak is narrower ; the pale streak on vein 5 beyond subterminal line is always present ; and, as in the ♂, the outer line is interrupted, but in this case by the pale ground colour from the apex ; the hindwing is olive fuscous, darker in ♀ than ♂.

Expanse of wings : 44 mm.

Upper Arca River, Biagi, Mambare River, Angabunga River, Upper Setekwa River, and the Ninay Valley, New Guinea : *leucorina* also from all these localities.

### 32. *Sasunaga longiplaga* spec. nov.

♂. *Forewing* : greyish ochreous slightly tinged with pale brown ; the veins finely black ; costa tinged with olive and marked with pairs of short oblique dark strigae ; the costal blotch before subterminal line olive grey, with only the narrower end above vein 7 blackish ; a fine black streak from base below cell : an oblong blackish fuscous blotch from inner line to termen including cell and space below it, beyond subterminal line comprising a pale streak on vein 5 ; orbicular stigma pale, roundish ; the reniform obscure and undefined ; before the oblong dark blotch and beneath the outer end of the black basal streak is a short white streak.

*Hindwing* : dark fuscous, with fringe pale.

Expanse of wings : 36 mm. to 40 mm.

3 ♂♂ from Penang, April 1898 (Curtis), (type), and 1 ♂ from Gunong Ijau, the latter browner and larger.

### 33. *Sasunaga apiciplaga* spec. nov.

♀. *Forewing* : purplish black in costal half of wing as far as submedian fold ; an oblique white streak from base of costa along vein 1, followed above by a black triangle before inner line ; inner margin below the white streak greenish grey, beyond inner line dull rufous dusted with fuscous ; cell black ; orbicular and reniform leaden grey, the latter outlined with white, followed by a pink streak to outer line ; outer line white just below costa, then dentate-lunulate, filled up with greyish fuscous and pink ; a roundish white spot at apex tinged with pink ; subterminal line ill-defined, pinkish, preceded and followed by black streaks and dashes ; fringe fuscous and pinkish, pale pinkish at apex.

*Hindwing* fuscous, the fringe pale.

Underside glossy grey with a faint red tinge; costa of both wings dusted with dark grey and fuscous.

Head and shoulders blackish; thorax and patagia (damaged) pinkish ochreous, probably redder and darker when perfect; dorsum grey; venter, pectus, and femora rufous grey; legs black ringed with pale.

Expanse of wings: 36 mm.

1 ♀ from Kei Island, December 1896 (H. Kühn). Smaller than *oenistis*, and without the vinous tint of that species.

### 34. *Sasunaga basiplaga* spec. nov.

♂. *Forewing*: very much like that of *interrupta* Warr. but smaller and more uniformly grey-brown: the veins finely black and the intervals streaked with dark; a small blackish blotch at base of inner margin, and an oblique black streak above it before inner line, which is strongly dentate, pale edged with black; orbicular stigma annular, with brown centre, white ring, and black outline; reniform ill-defined and outwardly diffuse, followed along vein 5 by a pale streak, running beyond subterminal line to termen.

♀ whitish ochreous tinged with olive green; the costa dark in basal half and before subterminal line, and the terminal area from above anal angle to middle; the base of cell with a wedge-shaped black mark.

*Hindwing*: fuscous, darker in ♀ than in ♂.

Underside of forewing grey-brown, with the costa at base, some streaks towards apex, and a terminal dash below vein 5 ochreous; the inner margin white; hindwing ochreous speckled with brown along costa, towards termen suffused with brown; a large dark cell-lunule and curved outer line; the veins brown.

Head and thorax ochreous mixed with olive brown and grey; the dorsum grey, sometimes dark grey; pectus, venter, femora, and underside of palpi ochreous; venter with a middle row of double black spots.

Expanse of wings: 40 mm.

2 ♂♂, 1 ♀ from the Khasia Hills; 1 ♀ from Waigieu (Waterstradt); 1 ♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, February and March 1909, 1 ♀ from Kumasi River, British New Guinea, June 1907 (A. S. Meek).

### 35. *Euplexia exangulata* spec. nov.

The species much resembles *E. pectinata* Warr., but differs as follows: it is always smaller—30 mm. only as compared with 36 mm.; the dark median area is at once narrower and paler; the amount of brown scaling in the basal area is greater; the inner white band forms an angular projection on submedian fold into the median area, stronger than that in *pectinata*, but much less prominent than in *sinuata* Moore; and the reniform stigma is more strongly marked with leaden grey at top and bottom. Sikkim and Bhutan only. The antennae of the ♂ are bipectinate.

### 36. *Euplexia rostrifera* spec. nov.

*Forewing*: white; the markings black; neither the basal nor median area nor the terminal black markings reaching inner margin; basal area traversed by a curved white subbasal line; inner white band narrow at costa, broad at middle, constricted on vein 1 by the inward projection of median area, then running in to base and outwardly confluent with the outer white area; orbicular stigma dark plumbeous very

faintly defined by paler; reniform white forming part of outer area, the median area forming a black hook beyond it and ending in a brown point above inner margin; outer line scarcely defined by two parallel series of black atoms; terminal area above middle purple blackish, inwardly edged with black, the edge extending to submedian fold, beyond which the termen is white; fringe purplish with a whitish basal line swollen into spots at the veins.

*Hindwing*: dark brownish fuscous, paler basewards, with a white terminal streak from vein 1 to 3 separated by a black streak from white spots on veins 2 and 3; fringe black at apex, below vein 6 with the tips white.

Underside blackish irrorated with bluish white scales, and deep black along termen; base and inner margin white; call-spots white, that in forewing conspicuous.

Head, thorax, pectus, and legs black; abdomen blackish, whitish at base, the tufts black; metathoracic tuft, tips of palpi, and basal segment of antennae white.

Expanse of wings: 30 mm.

1 ♀ Bonthain, Celebes.

### 37. *Euplexia nigroplumbea* spec. nov.

*Forewing*: bone-colour, suffused to a large extent with purple black; the median area below middle, the cell on each side of orbicular stigma, and a submarginal band deep velvety black brown, the paler spaces below middle flushed with brownish flesh-colour; median area projecting beaklike inwards in submedian interval, the pale band before it excurved at median and strongly below vein 1, its centre purplish; outer edge of median area oblique and straight from vein 8 to 4, then slightly inbent and again oblique to below vein 1, shortly bent outwards again along inner margin; followed by an oblique pale space, brown-tinged below middle with two purplish parallel transverse streaks above and a broad diffuse purple shade below; a velvety black shade from below costa before apex to anal angle, above which it is widened and diffuse and followed by a brown patch; fringe purplish, with pale dots at the vein ends; upper stigmata like the costal streak purplish black; the orbicular finely, the reniform more strongly outlined with ochreous, the latter with an ochreous streak across its middle; the orbicular reaching below median vein, their converse edges contiguous at lower end.

*Hindwing*: dull ochreous whitish, becoming dark smoky fuscous along termen; the veins dark terminally, vein 2 black and thick, marked by a subterminal pale spot and crossed by a terminal pale streak; the inner margin narrowly fuscous; the fringe purple black with the tips white.

Underside of forewing leaden fuscous sprinkled with blue-grey scales towards termen, the inner margin whitish; costa before apex with four white spots; fringe deep brown with yellow dots at the vein ends and a bluish middle line; hindwing whitish, the costal and terminal areas fuscous, thickly sprinkled with bluish scales.

Head, thorax, pectus, and legs purple black; palpi internally and in front pale; metathoracic tuft tipped with white, base of dorsum and lateral hairs pale; anal segments fuscous; the dorsal tufts black.

Expanse of wings: 34 mm.

1 ♂ from Kina Balu, N. Borneo.

38. *Euplexia submarginata* spec. nov.

*Forewing* : paler, more rufous brown than in *noraequinae* Beth.-Baker; the claviform stigma much narrower, and, like the other stigmata, more greenish white; the outer line with its outer edge paler and more lustrous; the submarginal line distinct, silvery green, oblique from costa before apex to vein 7, along which it runs outwards and is angled, curved inwards to above vein 5, curved outwards to vein 2, along which it runs inwards, then vertical to inner margin; terminal lunules cream-colour, in one specimen with brown lunules behind them.

*Hindwing* : rufous brown, paler basewards.

Palpi beneath, the top of second segment, and the third wholly white; the shoulders rufous like thorax, tipped with greenish white.

Expanse of wings : 36 mm.

3 ♂♂, one from the Angabunga River, the other two from Biagi, Mambare River, British New Guinea.

Distinguished by the more rufous brown wings.

39. *Euplexia tenuilinea* spec. nov.

*Forewing* : olive fuscous, more sombre in appearance than *noraequinae* Beth.-Baker or *submarginata* Warr., but agreeing in the main in the markings; the white lines, however, are much narrower; the inner line is edged externally with black; claviform stigma longer; subterminal line very obscure and interrupted; a row of large black terminal lunules edged with pale; fringe brown with a dark middle line.

*Hindwing* : dark fuscous along costa and termen, narrowing off to anal angle; the inner margin whitish, with the lower end of outer line marked in blackish from vein 2 to inner margin; the fringe of inner margin white.

Underside of hindwing with a dark streak in cell along the fold before the dark cell-spot.

Head and thorax much less varied with white scales, the shoulders glossy whitish with some brown scales intermixed in basal half only; the abdomen fuscous without any rufous or brown tinge.

Expanse of wings : 36 mm.

2 ♂♂, one from Biagi, Mambare River, the other from the Angabunga River, British New Guinea.

40. *Euplexia argyrospila* spec. nov.

*Forewing* : brown, appearing in certain lights golden brown, in others purplish-sprinkled with lilac scales, which also appear at times obsolete; markings consisting of silvery white spots and blotches, the lines themselves and the edges of the white marks deeper brown; subbasal line preceded by a single costal spot and followed by a streak below subcostal vein and another costal spot; inner line preceded by a white costal spot, a triangular blotch in submedian interval, and a flattened one below vein 4, and followed by a large round-ended claviform stigma; three or four small white spots along middle of inner margin; orbicular large and round; reniform S-shaped, with a brown spot at centre of each half; outer line starting from a white costal spot above reniform, followed by a flattened subcostal white blotch, a rounded one above vein 5, and another elongate flattened one in submedian interval; submarginal followed by two small spots on costa and below

before apex, and six white spots before termen, the two beyond cell elongate, and the two below them smallest : fringe brown with lilac scaling.

*Hindwing* : pure white, the terminal line from apex to vein 2 thick, brown ; the veins towards termen brown, a faint outer line and submarginal shade at apex ; fringe white, lined with brown as far as vein 2.

Underside of forewing brown shaded with reddish, white basewards and along submedian fold ; cell-spot brown with some white round it ; a row of white spots before termen ; fringe brown and lilac ; hindwing white, brown-speckled along costa ; an oblique inner line from costa to cell, the cell-spot, a curved lunulate outer line, and the thick terminal line brown.

Palpi brown with the tips of each segment white ; frons brown with a white spot at each side ; basal tuft and shaft of antennae brown ; vertex, collar, and shoulders white, the last faced with smooth leaden-grey scales ; thorax, patagia, and crests there and on dorsum brown tipped with white scales ; the centre of patagia with a blotch of silvery white scales ; dorsum white with the anal tip red ; underside and legs brown sprinkled with white, the joints of tarsi white.

Expanse of wings : 32 mm.

1 ♀, 5 ♂♂ from the Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek).

#### 41. *Euplexia moneta* spec. nov.

*Forewing* : resembles the last species *argyrosipila* in colour and disposition of markings, but the brown is paler and redder, the lilac scales stronger, and all the white markings, except the costal spots, shading into golden green ; an interrupted subcostal streak of golden green ; the outer line more distinctly lunulate-dentate and followed by a line of golden lunules, with the three spots smaller than in *argyrosipila* ; subterminal line waved, formed of small golden green spots ; the stigmata all a little smaller ; a row of deep brown terminal lunules ; fringe brown with pale lilac mottling.

*Hindwing* : dirty whitish suffused with brownish, deeper at apex and along termen ; the cell-spot, veins, and outer line darker ; fringe brownish, mottled with pale grey.

Underside of forewing rufous brown, speckled at apex and termen with bluish white ; traces of a dark brown outer line and whitish submarginal line of spots ; hindwing whitish, with cell-spot, outer lunulate-dentate line, a subterminal shade, and the terminal line red-brown ; traces of a short inner line close before the cell-spot ; fringe brown and lilac.

Head, face, and palpi red-brown mixed with whitish ; the tips of segments of palpi and the sides of frons white ; shoulders shining yellowish white, with a greenish shade ; patagia and thorax red-brown mixed with whitish ; the base and margins of patagia banded with golden yellow ; dorsum rufous brown mixed with whitish, the tufts red-brown ; underneath and legs red-brown white-speckled ; the joints of tarsi white.

Expanse of wings : 36 mm.

2 ♂♂ from the Angabunga River, British New Guinea, taken along with the last species.

#### 42. *Euplexia magnirena* spec. nov.

*Forewing* : deep flesh-colour, tinged in parts with olive brown ; the median area deep olive fuscous and brown ; subbasal line shown by a fine black stria above and

below subcostal vein; a black blotch at base of submedian interval, and a wedge-shaped black blotch below vein 1; basal area traversed by two diffuse olive brown wavy lines, both darker on costa: inner line thick, flesh-coloured, vertical, bent outwards on subcostal vein and excurved below vein 1; orbicular stigma olive brown, open above, narrowed below, edged with pinkish; claviform brown edged with black, with a sort of additional stigma above it, longer and touching median; reniform a very large yellowish white space with some dark dots before the lateral edges; outer line flesh-coloured, double, edged with brown, lunulate-dentate: veins slightly browner; submarginal line a row of pale flesh-coloured lunules, preceded by brownish suffusion and above vein 6 by blackish, and followed by a black terminal blotch between veins 4 and 6, the apex above it pale; fringe pale flesh-colour, tipped with black.

*Hindwing*: blackish fuscous, with a pale line before termen from anal angle: fringe pale flesh-colour with black tips.

Underside fuscous; forewing with large cell-spot, the row of submarginal spots, three apical spots and the outer line to vein 5 bone-colour; hindwing speckled with pale, with dark cell-spot and outer line and submarginal series of bone-coloured spots.

Head and thorax, pectus, palpi, and legs blackish fuscous, the legs with the joints pale; palpi with third segment and tips of second pale in front; metathoracic tuft flesh-coloured; abdomen greyish fuscous.

Expanse of wings: 42 mm.

1 ♀ from the Khasia Hills, Assam, May 1895.

#### 43. *Euplexia discalis* spec. nov.

*Forewing*: purplish brown, mixed with moss-green and reddish scales: the subapical area with a dull rufous patch; lines pale greenish, in places mixed with reddish; subbasal line double, blackish, interlined with pale green, especially at base of submedian interval; inner line of the ground colour edged on both sides with yellowish green, the inner edge more curved and running in basewards, forming a pale yellow patch on inner margin; outer line indistinctly treble below vein 8, obliquely sinuous inwards and approaching inner line on inner margin, their converse edges appearing to meet; below vein 5 the outer line is followed by a pale green band, on which the teeth of the line are marked in blackish; subterminal line broadly pale green, lunulate-dentate, preceded below vein 5 by a broad purplish brown shade, and followed by a similar shade, which is blacker close to the green; veins rather darker purple, the base of vein 2 bright red; claviform stigma dark, obscurely defined; orbicular oblique and oval, purplish red in centre with pale green outline; reniform oblong, narrow, bright sulphur yellow, with the centre greenish mixed with yellow and reddish.

*Hindwing*: whitish in middle, the costal and inner margins broadly smoky fuscous; the terminal border broadly dark fuscous; the fringe rufous; cell-spot blackish, large.

Underside of forewing with large whitish discal spot on a fuscous ground, of hindwing with a large black one on the white basal area.

Head and thorax dull purplish reddish, mixed with grey; palpi beneath ochreous rufous; metathoracic tuft rufous; abdomen greyish fuscous.

Expanse of wings: 36 mm.

1 ♀ from Pengalengan, Preanger, Java.



44. *Euplexia smaragdifera* nom. nov.

In *Cat. Lep. Phal. B.M.* vol. vii. p. 137, Hampson proposed the name *smaragdists* for *E. smaragdina* Beth.-Baker from New Guinea, nec Neumoegen from N. America; but he seems to have described and figured an Australian species, which, though very much like it, is certainly different from the New Guinea form. For this New Guinea species I propose the name *smaragdifera*, *smaragdina* Hmps. standing for the Australian.

45. *Euplexia esmeralda* spec. nov.

Differs from *smaragdifera* Warr. in being smaller; the ground colour velvety black, and the markings all brilliant emerald green; the subbasal line formed of two thick angled lines; all the lines thicker, the outer irregularly crenulate, inbent beyond cell; the terminal rays shorter and blunter, not actually reaching termen; the terminal lunules and fringe bright pale green, without any black terminal line.

2 ♂♂ and 1 ♀, from the Angabunga River and Biagi, Mambare River, respectively.

46. *Euplexia delineata* spec. nov.

*Forewing*: with the median area between subcostal vein and vein 1 and the terminal area deep olive fuscous; the lines and shading pale olive green; the costa, inner margin, basal area, and a band beyond outer line diffusely olive; subbasal line obscure, but angled outwards below vein 1; inner line oblique, edged inwardly with a black line, to vein 1, joined by a fine curved line from base of reniform stigma; outer line bent outwards below costa, evenly curved from vein 8 to 2, and sharply inangled in submedian interval, and more shortly and obscurely below vein 1, outwardly edged by a fine dark line; orbicular and reniform stigmata with fine green outlines; the former oblique, open below; the outer edge of reniform a narrow lunule; a fine oblique pale green streak from apex to outer band; veins finely pale green, veins 1 to 4 with oblique lines on each side meeting at termen; five terminal dark lunules preceded by pale green ones; fringe pale olive green.

*Hindwing*: dark bronzy fuscous, with the veins slenderly pale beyond middle and the fringe pale olive green.

Underside of forewing dark grey tinged with olive; the veins and fringe pale green; of hindwing whitish tinged with green along costa and termen; a dark curved outer line and brown oval cell-spot, which are both present but indistinct in forewing.

Head and thorax olive green mixed with white; palpi fawn-colour, externally dark brown; abdomen reddish grey, the venter paler; legs and pectus pale green and white; tarsi fawn-colour.

Expanse of wings: 38 mm.

1 ♀ from Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).

47. *Euplexia lucisquama* spec. nov.

*Forewing*: whitish ochreous, flushed with olive ochreous and flesh-colour; some blotches in basal area, the upper part of median area below subcostal vein, some terminal blotches, and costal spots at rise of the lines deep olive fuscous; subbasal line marked by two dark fuscous spots, at base of costa and cell, edged with whitish; inner line diffusely white, oblique, and slightly waved to vein 1, then

sharply angled and oblique inwards, preceded by two deep olive-fuscous blotches above and below vein 1, and followed by dark spots on costa and the veins; outer line bent outwards below costa, outcurved and lunulate-dentate from vein 8 to submedian fold, and there angled, blackish followed by a whitish line; orbicular stigma small, dark, externally white-edged; reniform a yellow-green lunule preceded by an angled white line; claviform pale green with a dark line edged with white below; inner margin below submedian fold pale yellow-green; subterminal line scarcely marked; a dark olive-fuscous praecipital spot on costa, some terminal streaks below, and a broad blotch between vein 3 and submedian fold; a terminal row of pale lunules; the fringe pale.

*Hindwing*: dark brown, paler, more olive ochreous, at base and on inner margin; fringe pale greenish ochreous.

Underside pale olive ochreous, whiter along inner margin, the middle of wing to outer line dull fuscous; hindwing ochreous with a slight olive-fuscous curved outer line and large oval cell-spot.

Head and thorax rufous ochreous; the palpi dark above; abdomen ochreous, tinged laterally with blackish in anal half.

Expanse of wings: 30 mm.

1 ♂ from Mt. Dulangan, Mindoro, 4500—5500 ft., November 1895 to January 1896 (J. Whitehead).

#### 48. *Euplexia carnefusa* spec. nov.

*Forewing*: whitish, suffused in the main with deep flesh-colour; the middle of inner margin and a band beyond outer line below middle pale green; the lines black; subbasal line oblique, projecting below costa and cell; inner line similarly oblique, black-edged below costa and cell, and sharply angled outwards below vein 1; the broad oblique band between these lines white powdered with rufous; outer line lunulate-dentate, outcurved above, then slightly oblique, followed by a white line; orbicular stigma a black spot edged outwardly with a white one; reniform lost in a large white cloud reaching from middle of costa to below vein 3, where it is limited by a broad black bar from inner to outer line above submedian fold, the part below being deep olive; terminal area powdered with white; a row of black terminal lunules, with the ends of the veins black between them, and inwardly edged with white lunules; a black submarginal blotch beyond cell, and black lunules on each side of vein 2; fringe flesh-colour, chequered with white and tipped with black.

*Hindwing*: olive brown suffused with fuscous; the veins and cell-spot darker; some obscure dark pale-edged lunules along termen; fringe brown and whitish.

Underside of forewing dull brownish fuscous, the inner margin paler; traces of a dark outer line; hindwing ochreous white dusted with brown along costa and termen, with a large blackish triangular cell-spot and brown curved outer line.

Head, thorax, and abdomen flesh-colour; the metathoracic tuft white.

Expanse of wings: 32 mm.

1 ♂ from the Naga Hills, Assam, 5000 to 8000 ft., July to August 1889 (W. Doherty).

#### 49. *Euplexia resplendens* spec. nov.

*Forewing*: greenish black; the shadings shining pale green; the lines finely yellowish or white; veins of terminal half marked with blue-green; base

green: subbasal line slenderly bluish white, sharply angled on subcostal vein and below median; inner line nearly straight and minutely wavy, angled outwards on subcostal vein, preceded by a band of shining pale green scales; outer line bent outwards below costa, then sinuous, incurved at vein 4, shining yellow, followed by a broad shining pale green band, the outer dentate-lunulate edge of which is the subterminal line; the veins across it bluish green; before the outer line in the deep green of the median area can be detected another obscure dentate-lunulate line; orbicular stigma annular, shining pale green with deep green centre, attached by similar green scales to inner line; reniform large, bright green, the inner edge straight, the outer wavy, whitish; bright white and green spots on costa at rise of the inner and outer lines; a terminal lunulate line of green and blue scales enclosing black lunules; fringe green in inner half, mottled black and ochreous in outer.

*Hindwing*: dark greenish fuscous, paler along inner margin; a thick blackish terminal line with a slight white streak below vein 2; fringe fuscous, the tips whitish.

Underside shining bronzy fuscous, tinged with green along costa and termen; dark thick outer lines and cell-spots; inner half of hindwing ochreous.

Head and thorax green and brown; basal half of dorsum ochreous with the crests green; anal half fuscous; tarsi black with ochreous joints; the tibiae greenish.

Expanse of wings; 40—42 mm.

5 ♀♀, 3 ♂♂ from the Augabunga River, British New Guinea, 6000 ft., November 1904 to February 1905; 1 ♀, 1 ♂ from Biagi, Mambare River, March 1906 (A. S. Meek).

#### 50. *Euplexia multicolor* spec. nov.

*Forewing*: pinkish grey suffused with rufous and brown towards base, the inner margin below vein 1 and the terminal area below 3 pale green; the outer half of wing before outer line triangularly suffused with fuscous; lines double, the arms well apart; subbasal oblique at first, then vertical; a black spot at base of submedian interval; a pale patch at base of inner margin edged with brownish and with deep black scales on inner margin, followed by a pale green patch on submedian fold, vein 1 beyond it brown spotted with black; inner line dentate-lunulate, the teeth pointing inwards and black, the lunules brown, oblique outwards to middle of wing; the claviform stigma small, brown-black, beyond middle of wing; orbicular stigma round, purple black; reniform narrow, oblique outwards, produced and swollen outwards at top and filled with red-brown, having beneath the projection a diamond-shaped pure pinkish-white spot pointed at each end; outer line double, oblique to vein 6, then vertical, and inwardly oblique and lunulate-dentate below 4, the inner arm thick and diffuse, the outer fine, the teeth on veins 1, 2, 3, 4, very long, marked with black and white dots; apical area whitish washed with pale red-brown; the subterminal line pale and wavy above, then greenish, preceded by a red-brown shade from vein 6 to 2; terminal lunules black, those beyond cell larger and containing between them a green wedge-shaped mark; fringe pinkish ochreous mottled with brown above vein 5, deep brown below.

*Hindwing*: fuscous brown, paler basewards, and deeper brown along termen; the veins and cell-spot darker; fringe grey-white.

Underside ochreous; the forewing suffused, except along the margins, with

fuscous and red-brown; the submarginal line, the costal part of outer line, and the apex ochreous; outer line blackish, hindwing with large triangular black-brown cell-spots and dark brown outer line, interrupted between 6 and 7; the terminal area beyond it washed with brown; the terminal spots large and quadrate, red-brown, from apex to vein 2; space between veins 8 and 6 from base to outer line yellow and mealy.

Palpi red-brown, terminal segments and tips of second, the face and vertex yellow ochreous; shoulders brown with a dark line above; patagia greenish brown; dorsum red-brown; pectus yellowish.

Expanse of wings: 40 mm.

3 ♂♂ from Upper Aroa River, British New Guinea, March 1903 (A. S. Meek).

#### 51. *Euplexia cervinipennis* spec. nov.

*Forewing*: pinkish brown-grey irrorated with darker and mixed with greenish, especially below middle; subbasal line black edged inwardly with green; a pale ochreous patch at base of inner margin with a black spot at base of vein 1; inner and outer lines black, conversely edged with pinkish brown above and pale green below; the inner outwardly oblique and waved, green-edged below middle only, followed by a small green spot at place of claviform stigma, and preceded below middle by a band of dull slaty scales, with a large greenish blotch before it in submedian interval; outer line oblique outwards to vein 6, where it is dentate, vertical to 4, then inwardly oblique and dentate-lunulate, edged inwardly with green below vein 6, followed by a band of dove-coloured pink; subterminal line pale green, dentate below vein 4, with brown shading before it, above middle with black marks, followed by a darker green shading before the large pale green terminal lunules, which are outwardly edged by black lunules; fringe pink with a dark middle line and the tips pale; orbicular and reniform stigmata with broad pale green outlines, connected above median, and in the latter mixed with whitish, their centres brown; cell before and beyond the reniform black-green; median area below middle mixed with green; veins tinged with pink.

*Hindwing*: blackish fuscous with a dark paler-edged outer line; fringe rufous.

Underside of forewing rufous fuscous, the basal half darkest; inner margin whitish; terminal area rufous ochreous; cell-spot and outer line blackish; hindwing ochreous suffused and irrorated with fuscous; a large black cell-spot and black curved outer line.

Head and thorax reddish brown; basal half of dorsum rufous, anal half more fuscous; pectus, legs, and venter rufous, browner in front; tarsi black with the joints yellowish; palpi externally black-marked.

Expanse of wings: 48 mm.

1 ♀ from Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek).

#### 52. *Euplexia muscosa* spec. nov.

*Forewing*: purplish vinous intermixed with green; the upper stigmata pale green; the terminal area pale green frosted with olive; costal edge purplish vinous, the subcostal vein streaked with moss-green to outer line; the inner margin green below vein 1; subbasal line two dark purple spots followed by pale green scaling; inner line double, waved, deep purple filled in with pale

green ; outer line dull green above middle, vinous below ; submarginal line white from below costa, strongly toothed below middle, preceded by a deep purple-red shade from below costa ; upper stigmata conversely oblique, pale green, the cell to outer line deep purple ; median vein pale green below the stigmata ; a dull green patch below reniform between veins 2 and 4 at base ; fringe yellow-green.

*Hindwing* : dark olive fuscous, paler towards base ; fringe pale green.

Underside of forewing fuscous, tinged with vinous along costa and termen ; submarginal line and fringe yellow-green ; praecapical costal spots snow-white ; hindwing ochreous white speckled with dark ; a large dark cell-spot ; the termen shaded with fuscous beyond a dark outer line indented beyond cell.

Head and thorax bright rufous ; dorsal crests and anal tuft rufous ; dorsum dark green and rufous.

Expanse of wings : 30 mm.

1 ♀ from Angabunga River, British New Guinea, 6000 ft. November 1904 to February 1905 (A. S. Meek).

### 53. *Euplexia connexa* spec. nov.

*Forewing* : pinkish grey densely speckled with darker ; the basal area, the upper stigmata, and the terminal area pale green, the last thickly freckled with brown ; subbasal line obscurely double and angled, followed by a patch of pale green which emits a sharp-pointed streak along submedian fold to inner line ; inner line oblique, brown, inwardly edged with dull green, outwardly with pale ; outer line oblique inwards, slightly curved outwards between veins and indented on submedian fold, edged inwardly with pale, outwardly pinkish grey, toothed on the veins, their converse edges meeting on inner margin ; median area olive fuscous ; the stigmata pale green with darker centres ; the veins all pinkish grey ; subterminal line broadly pale green, formed of contiguous lunules above middle and separate angles below, preceded between 4 and 7 by an olive-fuscous blotch ; fringe with three dark lunulate lines, intersected by pale rays from yellow spots at the ends of veins.

*Hindwing* : whitish, with a slight brownish terminal cloud in the ♂, the whole outer half of wing brownish in the ♀ ; cell-spot large and grey.

Underside whitish ; tinged in forewing with ochreous grey towards centre, and speckled only in hindwing ; cell-spots and outer lines marked, darker in hindwing.

Head and thorax rufous ochreous mixed with darker ; abdomen pale ochreous white with the tufts pinkish.

Expanse of wings : 27 mm.

1 ♂, 1 ♀ from Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek)

Still smaller than *muscosa*, distinguished by the pale hindwings and interlined fringes.

### 54. *Euplexia figurata* spec. nov.

*Forewing* : dark olive fuscous ; a broad costal streak ochreous tinged with brown ; basal area slightly greenish tinged ; subbasal line black, twice curved ; inner line oblique and nearly straight, inwardly darker, outwardly paler ; stigmata pale green, united along median, and both coalescent with a triangular green blotch extending from vein 2 to 4 and reaching outer band ; this band is oblique inwards, bone-colour shaded with pinkish and with a faint middle line, indented

on submedian fold; terminal area pale green, marked between veins 2 and 5 by purplish blotches; a row of black terminal lunules; fringe with three dark lunulate lines and intersected by pale rays beyond veins.

*Hindwing*: wholly white, with a very faint pinkish tinge towards apex.

Underside ochreous white; the fringe of forewing dark brown; hindwing with dark cell-spot; the fringe yellowish; the costa freckled with brown.

Head and thorax olive fuscous mixed with pale green and ochreous; abdomen pale ochreous.

Expanse of wings: 26 mm.

1 ♀, 2 ♂♂, from the Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (Meek).

### 55. *Euplexia carneola* spec. nov.

*Forewing*: deep olive brown; the costal streak and all the transverse bands ochreous flushed with flesh-colour; inner band outwardly oblique, brownish flesh-colour, the outer edge finely pale, joined above vein 1 by a similarly coloured streak from base; outer band inwardly oblique parallel to termen, finely edged inwardly with pale and slightly wavy, approaching inner line on inner margin; reniform stigma flesh-coloured, expanding along median vein; orbicular narrow, oblique, pale ochreous with no flesh-coloured tint; vein 2 also ochreous; subterminal line narrowly white, inwardly black-edged, zigzag below 4; the terminal area pale flesh-colour above, mixed with grey below middle, the ends of the veins dark to termen; fringe flesh-colour.

*Hindwing*: glossy ochreous, tinged with flesh-colour terminally, with traces of a darker subterminal line.

Underside ochreous tinged with flesh-colour, the markings faintly showing through.

Head, thorax, and abdomen rufous.

Expanse of wings: 32 mm.

1 ♂ from the Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek).

### 56. *Euplexia complicata* spec. nov.

*Forewing*: deep olive fuscous; the markings bone-colour tinged with green; the costal streak flesh-colour; subbasal line bone-colour, enclosing two small brown spots at base; inner band oblique and straight from subcostal vein to inner margin; between it and subbasal line a diffuse pale spot above vein 1; the median vein and vein 1 both pale and thickened in places; outer band inwardly oblique from a little before apex to inner margin, where both it and the inner band are united by an oblong patch below vein 1; orbicular and reniform bone-colour with greenish centres: the former oblique, oval; the latter with inner edge sinuous and curved inwards along the median vein, the outer edge concave; the median vein and bases of veins 2, 3, 4 thickened into a triangular blotch; submarginal line close to termen, pale and wavy, toothed inwards along vein 2; veins 1, 2, 3, 4, and 7 continued, pale rufous, through the fringe, which is pale green, with ochreous tips, the two shades separated by a fine dentate-lunulate line of dark atoms.

*Hindwing*: ochreous, clouded in outer half with greenish fuscous.

Underside ochreous, tinged in forewing with greenish, mixed with fuscous beyond middle; hindwing with costa green-speckled; the cell-spot and outer line dark green.

Head, thorax, and abdomen ochreous; the face and shoulders rufous-tinged; the thorax tipped with green and brownish; anal tuft ochreous; pectus, forelegs, and palpi externally brownish.

Expanse of wings: 36 mm.

1 ♂ from the Angabunga River, British New Guinea, 6000 ft., November 1904 to February 1905 (A. S. Meek).

Superficially resembling *E. carneola*.

### 57. *Euplexia alboguttata* spec. nov.

*Forewing*: brown, shaded with darker and intermixed with violaceous and greenish in places; the stigmata, the lines, and a patch on inner margin before middle pale yellow-green; subbasal line black, starting from middle of a yellow-green costal spot and edged outwardly with black; a black spot above inner margin before the large yellow patch; inner line ill defined, plainest across the dark submedian interval, which is olive brown from base outwards; claviform stigma large, subquadrate, olive brown, edged at end with black, and followed by a white drop-shaped mark from vein 2; orbicular and reniform conversely oblique, yellow-green, with olive centres, open above and below, and connected along median vein, and edged laterally with black; the cell before and beyond reniform brown; outer line yellow-green, edged externally with blackish, outcurved round cell, incurved from 4 to 2, then vertically waved; subterminal line pale green, indented on both folds, preceded by some chestnut-brown scaling, before which there is an oblique violaceous band edged with purple; terminal area purplish grey, darker beyond cell and submedian interval; fringe yellow-green; costa pale yellowish along median area, the costal edge spotted with brown throughout.

*Hindwing*: pale ochreous, with dark grey cell-spot and outer line; the terminal area washed with brownish, especially on the folds.

Underside pale ochreous; cell-spot and outer line black, strongest in hindwing, which is sprinkled with black along costa and has a long spot in base of cell.

Head, thorax, and abdomen ochreous, slightly speckled with blackish; the thorax tinged with brownish.

Expanse of wings: 40 mm.

1 ♀, 3 ♂♂, from Kina Balu, North Borneo.

### 58. *Euplexia tibetensis* spec. nov.

*Forewing*: very dark olive green shading in places to blackish; basal patch pale green, with the subbasal line obscurely black across it; a black pointed mark on inner margin before inner line; inner and outer lines very indistinct; the inner preceded by a green mark on costa; the outer curved outwards above round cell, and oblique inwards below middle; orbicular and reniform stigmata pale green, with slightly darker centres, coalescent along median vein and below; a green pear-shaped mark from vein 2 near base; subterminal line pale green, angled slightly outwards on vein 7, dentate on veins 3 and 4, and indented on submedian interval; the terminal area dark above middle and at tornus; fringe pale green.

*Hindwing*: white in basal half, dark fuscous in outer; the fringe fuscous.

Underside of forewing dark fuscous, the inner margin white; cell-spot and subterminal line whitish; hindwing white, the costa, termen, and cell-spot fuscous.

Head blackish; thorax and abdomen fuscous mixed with greenish; the underside and legs blackish.

Expanse of wings: 39 mm.

1 ♂ from Chumbi Valley, Tibet. The only specimen is much discoloured towards base and along inner margin, but is certainly a distinct species.

#### 59. *Data rectisecta* spec. nov.

Like *D. thalpophiloides* Wlk., but smaller; the yellow of the hindwing paler; its terminal border broader, blackish fuscous, not reddish brown; its inner edge straight across wing, not insinuate at middle, curved inwards only just before costa; in *callopietrioides* Moore the inner edge is also straight, but in that species the veins of forewing are pink.

1 ♀ from Cachar; 1 ♀ from West Java.

#### 60. *Eriopus nivetacta* spec. nov.

Smaller and darker than *strigilineata* Hmps.

*Forewing*: blackish fuscous dusted with olive, suffused on median vein with violaceous; veins pinkish, becoming olive terminally; subbasal line white, edged with black; inner line strongly excurved, black, edged on both sides with yellowish white, with an oblique white mark from submedian fold to vein 1; orbicular stigma oblique, brown, with a white ring, broader above; reniform oblique inwards, edged with a white line on each side meeting in a curve at top, the centre reddish on a brown ground, the lower outer end swollen and followed by an oblique white dash; outer line rufous olive, preceded by a row of black lunules and followed by a belt of violaceous grey; subterminal line marked by large snow-white elongate spots above veins 7, 6, and 4, and a small dot nearer outer line above 5; before the termen a row of snow-white lunules edging black terminal spots; fringe blackish mottled with white, and with a yellow basal line.

*Hindwing*: dark fuscous, paler towards base and costa.

Underside of forewing brownish grey, the costal margin and termen dusted with brown and white scales; the white marks of upperside showing through along termen and outer third of costa; hindwing whitish powdered with olive brown except in abdominal third; an obscure brown cell-spot; a waved outer line, an indistinct submarginal shade, and dark terminal lunules, not extending below middle of wing.

Head, thorax, and abdomen olive fuscous varied with white scales; tegulae, patagia, and palpi tipped with white.

Expanse of wings: ♂ 26 mm.; ♀ 28 mm.

4 ♂♂, 6 ♀♀ from the Khasia Hills, Assam.

#### 61. *Condica albiorbis* spec. nov.

*Forewing*: red-brown dusted with darker; the lines and shadings black and thick; lines double filled in with reddish; the subbasal angled on median vein, the inner on submedian fold, touching both orbicular and claviform stigmata; the claviform large, dark brown edged with black; the orbicular oblique, oval, brown at centre with a white annulus edged with black; reniform large, its inner edge



straight and black, with a white dot at each end; its outer with a large white blotch at middle, a white dot at upper end, and two at lower, all alike tipped with black; outer line lunulate-dentate, oblique to vein 3, then incurved; subterminal line yellowish, broken up into spots, preceded by strong black wedge-shaped marks, and joined by black streaks to the terminal lunules; the termen itself and the costa at apex being darker; veins dotted with pale; fringe with a pale line at base.

*Hindwing*: bronzy brown, with dark terminal line; the fringe brown.

Underside of forewing dull fuscous, the costa reddish grey and termen paler; of hindwing pale, reddish tinged towards costa and dusted with fuscous and white, with black cell-spot and outer line.

Head and thorax dark red-brown; the abdomen fuscous grey.

Expanse of wings: 42 mm.

1 ♂, 2 ♀ Darjiling (F. Möller).

#### 62. *Condica albilineata* spec. nov.

Smaller and redder than *albiorbis*, the forewing narrower and more pointed, the termen more oblique; lines black and indistinct; veins dark dotted with white; claviform stigma square, dark red-brown edged with black; orbicular as in *albiorbis*; reniform much narrower, red-brown, with a large white spot in middle of outer edge and two white dots below it; from the white dot above it a continuous sinuous white line runs above and inside the stigma to its lower end on median vein; the subterminal line is plainer.

*Hindwing*: bronzy brown with dark terminal line and cell-spot; fringe brown.

Head and thorax reddish brown; dorsum reddish with the tufts red.

Expanse of wings: 34 mm.

1 ♀ from the Khasia Hills, Assam.

#### 63. *Condica connotata* spec. nov.

Intermediate between *confundens* Wlk. and *subnigrata*, ochreous or pale brown tinged with rufous; the claviform stigma and the dark patch between the upper stigmata not so dark as in *confundens*; the reniform externally with a whitish lunule, with two white dots below and one above it, and a white dot, more or less evident, at each end of its inner edge; terminal area with a dark blotch beyond cell and another above anal angle, the latter extending inside subterminal line.

*Hindwing*: brownish fuscous, always darker than in *confundens*, but not so deep as in *subnigrata*.

Underside as in *confundens*.

Expanse of wings: 38 mm.

8 ♀♀ from Ceylon, S. India, and E. Pegu.

#### 64. *Condica subnigrata* spec. nov. and ab. *uniformis* ab. nov.

Differs from *C. confundens* Wlk. in being dark red-brown suffused with fuscous, instead of rufous grey, with the lines and markings less clear; in particular the large blackish claviform stigma does not extend so far outwards and consequently does not form an even line with the inner edge of the reniform stigma; the reniform is larger, marked internally with a thick black bar, and

with the hollow in the middle of the outer edge filled up with pale luteous instead of white, with two whitish dots, sometimes faintly marked, at the lower outer end, but generally with all the white dots absent; the terminal area beyond the luteous subterminal line always darker.

*Hindwing*: dark reddish brown, with terminal blackish lunules; the fringe rufous ochreous, tinged with fuscous.

Underside of forewing deep velvety black-brown, with the costal and terminal margins reddish; hindwing ochreous, the costa speckled with reddish; cell-spot and outer line prominently blackish.

Head, thorax, and abdomen dark red-brown.

1 ♀, 3 ♂♂ from the Nilgiri Hills, Madras; 1 ♀ from Ceylon.

The ab. *uniformis* is more uniformly red-brown, without the fuscous suffusion or darker blotches; the claviform and the space between upper stigmata being also red-brown; the lunule on outer edge of reniform dull yellow; the subterminal line more precise; the fringe of hindwing pure rufous.

2 ♂♂ from Ceylon.

#### 65. *Prospalta ochrisquamata* spec. nov.

*Forewing*: dull olive brown, faintly red-tinged, and sprinkled with pale ochreous scales; a patch of ochreous scales on inner margin near base, and an ochreous spot at base of submedian interval; the costa marked by small ochreous dots at origin of lines; inner line sometimes denoted by pale dots on the veins, often obsolete; outer line lunulate-dentate, blackish, the teeth marked by slight ochreous dots on veins, the lunules sometimes followed by a few ochreous scales, that above vein 5 always by an ochreous spot; spots of the two outer rows whiter and irregular in shape, those of the subterminal row on each side of vein 5 and on submedian fold larger and diffuser; a black lunulate line along termen swollen into black spots between the veins; fringe blackish with ochreous spots at base and intersected by ochreous rays; orbicular stigma oblique, with reddish centre outlined with ochreous scales; reniform with an ochreous lunule at centre and interrupted punctulate ochreous outline, showing, when complete, four dots internally and three externally, with a lunule between.

*Hindwing*: luteous ochreous in basal half, brownish fuscous in outer, with dark lunulate terminal line and pale ochreous fringe.

Underside glossy ochreous in basal half, the costa broadly sprinkled with red scales; forewing with dark grey cell-spot, outer waved line and fuscous band before subterminal line; hindwing with cell-spot, outer line, and dark terminal band.

Face and vertex ochreous with black bars; palpi ochreous internally and in front, black externally; shoulders and patagia brown; thorax and metathoracic tuft ochreous, the latter with a double black line in front near base; dorsum grey-brown, more ochreous below; pectus and legs fuscous grey; tibiae black with ochreous rings.

Expanse of wings: 40 mm.

1 ♂, 2 ♀♀ from the Khasia Hills, Assam, the ♂ dated September 1895.

#### 66. *Prospalta praesecta* spec. nov.

*Forewing*: brown-black glossed with purple; subbasal and inner lines unmarked, except by a few pale scales on veins; a fine black streak from base along submedian fold, containing a deep yellow spot, and ending in a long elliptical

claviform stigma; orbicular obscure, oblique with some fine yellow scales round it ringed with black; reniform large, 8-shaped, its upper half indicated only by yellow lines and pale dots edged by black; its lower half with a round white spot ringed with black, followed by two white dots and with a yellow curved line below; outer line black, lunulate-dentate, the lunules filled up with yellow; subterminal line formed of irregular patches of yellow scales preceded by black wedge-shaped marks, the spots on each side of vein 3 dotlike; a row of yellow dots just before termen between the veins, and a row at base of fringe at the end of the veins.

*Hindwing*: olive fuscous, the basal half in ♂ paler with dark veins; a row of pale lunular spots before termen; fringe rufous ochreous.

Underside glossy olive grey in forewing, with the outer and subterminal lines pale, the space between them darker; fringe rufous; hindwing dull whitish, broadly speckled with rufous olive along costa and termen, with a fuscous terminal band and outer line, not reaching inner margin.

Head, inside of palpi, base of shoulders, the prothoracic and metathoracic tufts, and the basal tufts on dorsum dull brick-red; palpi externally, a bar across face, the upper half of shoulders and the patagia black; dorsum fuscous with the tufts black; anal tufts beneath ochreous and deep yellow.

Expanse of wings: 40 mm.

1 ♀ from Ambogna, February 1892 (Doherty); 1 ♀ from Fergusson Island, December 1895 (Meek); 2 ♀♀ from St. Aignan, November 1897 (Meek); 1 ♀ from Great Kei, March 1897 (Doherty); 2 ♀♀ from Kei, November 1895 (Kühn); 2 ♀♀ from Geraldton, Cairns, Queensland (Meek); 1 ♂, 1 ♀ (type) from Ninay Valley, Central Arfak Mts., Dutch New Guinea, December 1908 to January 1909.

#### 67. *Prospalta sublucens* spec. nov.

*Forewing*: greenish fuscous on a pinkish ochreous ground, which shows only along the course of the lines and slightly along inner margin; lines double, blackish, containing an ochreous spot on costa; inner line oblique, angled outwards below vein 1; outer line bent outwards below costa, dentate-lunulate, incurved from 4 to 2; subterminal formed of ochreous lunules, preceded by black wedge-shaped marks, and followed by narrower ones, each ending in a pale dot before termen; median shade distinct, bent in middle, zigzag above inner margin; claviform stigma obscure, narrow, with diffuse dark edges; orbicular short and broad, with its lateral edges first pale, then black; reniform large, 8-shaped, ochreous tinged with dark, edged with black, and containing within it in outline another figure of 8; a terminal series of dark pale-tipped spots; fringe brown with dark crenulate line near base.

*Hindwing*: whitish with broad fuscous terminal border and black lunulate terminal line; the fringe whitish; veins and cell-spot dark.

Underside shining whitish tinged with grey; costa ochreous dusted with greenish grey; a grey cell-spot, outer line, and broad submarginal band, which on costa of forewing is black with a pale spot in middle.

Head and thorax greenish fuscous; the abdomen grey; pectus and legs grey speckled with pale; the tarsi blackish with the joints pale.

Expanse of wings: 34—38 mm.

1 ♀ from Gaujam (Coll. Elwes); 1 ♂ from Madras, March 1897; 1 ♂ from Astrolabe Bay, German New Guinea, July (Wahnes); 1 ♂, Burdekin River, Queensland (Simson) (type). The green tinge is very much more pronounced in the single ♀ than in any of the ♂♂.

68. *Prospalta pulverosa* spec. nov. and ab. *variegata* ab. nov.

*Forewing*: olive grey thickly dusted with darker mixed with some pale scales; subbasal and inner lines double, dark, filled in with ochreous; the inner line dentate inwards on the veins; the outer lunulate-dentate, much more sinuous than in the allied species, followed by an ochreous band, which is traversed by a double fuscous line; submarginal line macular, ochreous, preceded by a dark shade; claviform stigma olive, outlined with black; orbicular round, with grey centre in an ochreous ring outlined with black; reniform subquadrate, with a dark line on discocellular edged on both sides with whitish, inwardly black-edged, externally with a brown lunule followed by pale points.

*Hindwing*: olive fuscous in both sexes, rather paler basewards; fringe tipped with white.

Underside whitish, dusted towards costa with olive scales, the disc in the forewing grey; the termen with an obscure submarginal cloud; hindwing with a black border from apex to below middle, a grey cell-spot, and slight outer line at costa.

Head, thorax, and abdomen olive grey.

Expanse of wings: 30 mm.

1 ♂, Brisbane district, Queensland (type); 1 ♀, Geraldton, Cairns, Queensland (Meek); 1 ♀, Parkside, S. Australia; 2 ♀♀ from the Barnard Collection, without exact locality, one of which is the type of *variegata*.

69. *Prospalta pallidipennis* spec. nov.

This species much resembles *P. capensis* Guen., but is smaller and paler, greyer without the red-brown tinge, but slightly brownish or reddish along the folds; the markings of forewing similar; distinguished by the hindwings, which are white with a diffuse fuscous terminal border; the veins dark.

4 ♂♂ from the Nilgiris; 1 ♂ from the Khasia Hills, Assam; 2 ♂♂ from Kulu; 1 ♂ from N.W. India.

70. *Perigea ochracea* spec. nov.

*Forewing*: greenish ochreous along costa above median vein and terminally down to vein 3; the lines marked on costa by pairs of oblique darker green strigae; from median vein to vein 1 the ground colour is more fulvous with a tinge of olive; inner margin marked with dark grey or pale grey or whitish scales, and with a patch of white beyond outer line; inner line double, oblique and obscure, but strongly angled on vein 1 and obliquely straight towards base of inner margin; the median shade olive at costa and darker from vein 5 to 1, beyond the reniform forming a darker blotch; stigmata variable, sometimes hardly marked, in other cases distinct, the reniform with two dark dots on outer side before the dark blotch; anal angle region suffused with olive fuscous or brown, darkening the fringe; the submarginal line and the dark apical streak both slight.

*Hindwing*: reddish luteous or fuscous, with the terminal area from costa to vein 1 reddish fuscous or dark fuscous, its inner edge straight; extreme termen pale with dark dots; fringe pale with an irregular dark line through it.

Underside ochreous, in the forewing tinged with reddish, leaving inner margin whitish, the costal and terminal areas ochreous dusted with dark, a reddish outer

line and broad shade beyond it; hindwing paler ochreous, the costa speckled with reddish; a ring spot, outer line, and shade beyond it reddish.

Head ochreous mixed with brown; shoulders dark brown, pale in front; patagia fulvous; thorax pale grey; abdomen fulvous ochreous.

Expanse of wings: 36 mm.

2 ♂♂, 2 ♀♀, from Biagi, Mambare River, British New Guinea, 5000 ft., February to April 1906 (Meek).

The ♀♀ have the hindwings redder, the ♂♂ more fuscous.

#### 71. *Perigea hilaris* spec. nov.

*Forewing*: bright fulvous yellow; the inner margin brownish, with a bluish white streak from near base to inner line at vein 1; inner line double, brown, oblique; claviform stigma fulvous with black spot at extremity; orbicular round, with brown outline; reniform large, figure-of-8-shaped, containing some black dots and brown scales; median shade forming a large brown cloud on costa above stigmata, then reappearing as a curved brown shade from vein 5 to vein 1, touching outer line, which is lunulate-dentate, brown and double, with black and white teeth on the veins; an oblique brown line from below apex to outer line at vein 5; subterminal line pale, defined by a dark shade preceding it, the inside of which is tinged with blue-grey between veins 2 and 5; a whitish patch on inner margin at end of outer line; anal angle shaded with dark fuscous running out into the fringe, which is brown, preceded by a row of small dark dots before termen.

*Hindwing*: reddish suffused with fuscous.

Underside glossy reddish; costal area of both wings ochreous dusted with fuscous; a dark cell-spot, outer line, and shade beyond it.

Head dull fulvous; shoulders fulvous with upper half brown; patagia brownish fulvous; abdomen bright fulvous; thorax and tuft on basal segment of dorsum pale grey; palpi externally blackish.

Expanse of wings: 48 mm.

2 ♀♀ from Milne Bay, British New Guinea, December 1898 (Meek); 3 ♀♀ from the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., August 1910 (Meek); 1 ♀ from near Oetakwa River, Snow Mts., Dutch New Guinea, 3500 ft., October to December 1910 (Meek) (type); 1 ♀ from Fergusson Island, September to December 1894 (Meek).

Allied to *P. fuscostrigata* Beth.-Baker, but much brighter and paler; all the examples hitherto seen are ♀♀.

#### 72. *Perigea olivacea* spec. nov.

*Forewing*: bone-colour suffused with olive grey, deeper towards inner margin and termen, and slightly brownish along the folds, but without any admixture of yellow or fulvous; inner line marked only by white dashes on the veins edged with deep brown; outer line the same, only visible below vein 6, the dashes lying on a red-brown shade which, above vein 6, runs obliquely to termen below apex; stigmata hardly visible, except for some red-brown scales within them; two red-brown spots beyond lower angle of cell; submarginal line marked by a rather olive-brown shade; a row of small black dots before termen; inner margin broadly streaked with red-brown, marked at two-thirds by a whitish blotch, where the outer line curves into it; the anal angle darkened by a greyish black patch, running out into the fringe, which is darker also below apex.

*Hindwing*: olive fuscous, the fringe olive ochreous.

Underside of forewing grey tinged externally with reddish; the costal and terminal areas pale ochreous speckled with grey; the fringe grey-brown; hindwing pale ochreous, darker terminally with dark dentate outer line and diffuse submarginal shade.

Head and thorax olive ochreous; upper part of face and palpi externally darker; abdomen ochreous, the dorsum tinged with grey.

Expanse of wings: 40 mm.

3 ♀♀ from Sikkim, two taken by O. Möller, dated May 1888, and the third by F. Möller.

### 73. *Perigea turpis* spec. nov.

*Forewing*: pale dull greenish in costal half (becoming more ochreous when wasted), dull fulvous ochreous below middle, and fuscous brown along inner margin below vein 1, the whole dusted and suffused with grey; the inner line outwardly oblique and strongly angled, below vein 1 running obliquely inwards and filled up with white, which also runs diffusely along inner margin to a white blotch at end of outer line, which itself is filled up with white below vein 5; the stigmata of the usual shape, but ill-defined; median shade forms a slight dark costal cloud, and a dark blotch beyond reniform, from which in most cases a dark band runs to inner margin before outer line; terminal area more or less clouded with grey and fuscous, the outer half generally paler beyond the subterminal line, which is yellowish and regularly waved; the oblique shade from apex not very strongly marked; fringe olive, dark brown at anal angle.

*Hindwing*: blackish, tinged towards anal angle and inner margin with reddish fulvous.

Underside of forewing reddish; the costal and terminal areas ochreous dusted with grey; a dark outer line and diffuse fuscous-edged band; hindwing ochreous dusted with rufous at costa, tinged with rufous below cell, with dark cell-spot, outer line, and submarginal shade.

Face and palpi ochreous; shoulders ochreous mixed with dark brown; patagia ochreous; thorax pale grey; abdomen ochreous, the dorsum in ♂ tinged with dark fuscous; pectus and legs ochreous; tarsi fuscous with pale joints.

Expanse of wings: 48 mm.

1 ♂, 2 ♀♀ from Upper Setekwa River, Suow Mts., Dutch New Guinea, September 1910 (Meek); 1 ♀, 2 ♂♂ from near Octakwa River, Snow Mts., Dutch New Guinea, October—December 1910 (Meek) (type); 1 ♂, 2 ♀♀ from Milne Bay, British New Guinea, November 1898—January 1899 (Meek).

### 74. *Perigea semirufa* spec. nov. and ab. *rubrisuffusa* ab nov.

*Forewing*: olive more or less suffused with reddish, the olive remaining strongest at base, along costa, and towards termen; or the suffusion is darker green with some brownish; the inner margin is marked with white at the end of the inner, outer, and submarginal lines; the costa is sprinkled with white beyond the outer line; median shade dark olive, strongly angled on median vein before outer line; the outer line generally has the teeth strongly marked with white; subterminal line yellowish, preceded by a dark green or reddish shade; stigmata very indistinct; sometimes the wing is varied with white scales; there is generally a rufous shade running along submedian fold; no dark oblique streak from apex, nor dark shade at anal angle; fringe olive.

*Hindwing*: bright red, with greenish terminal spots and fringe.

Underside ochreous, tinged with bright red in cell of forewing; the costa speckled with brown, the termen suffused with grey-brown; a dark red outer line; hindwing with costal area thickly red-speckled, the inner half pale ochreous; a brown bent outer line in upper half.

Head, thorax, and abdomen rufous.

In the ab. *rubrisuffusa* the forewing is almost wholly reddish, only the costa and apex remaining olive; the median shade is absent, and only the outer and subterminal lines are visible.

Expanse of wings: 40 mm.

2 ♂♂, 2 ♀♀ from Upper Setekwa River, Snow Mts., Dutch New Guinea, August—September 1910 (Meek); 1 ♀ from near Oetakwa River, Snow Mts., Dutch New Guinea, October—December 1910 (Meek) (type); 1 ♀ from Biagi, Mambare River, British New Guinea, October—December 1906 (Meek), type of ab. *rubrisuffusa*.

#### 75. *Acrapex melianoides* spec. nov.

*Forewing*: dull greyish ochreous with fuscous suffusion; the paler ground colour forms two broadening streaks along the cell and submedian interspace, in the former case running up to apex; costal area diffusely fuscous in the interstices, the veins remaining pale; a dark olive-fuscous streak below cell from base widens outwardly beyond middle, becoming more diffuse, its upper edge running obliquely to just below apex; a third fuscous suffusion along inner margin; in the terminal darker area the veins are slightly paler; orbicular and reniform stigmata indicated only by blackish dots above and on median vein; faint traces of a dark dentate outer line; some dark terminal spots; fringe grey with a darker line at middle.

*Hindwing*: dull dirty grey, darker at termen; fringe pale with slight rufous tinge.

Underside dull ochreous grey, the folds of forewing and the whole hindwing rather paler.

Head, thorax, and abdomen all dull grey.

Expanse of wings: 40 mm.

4 ♀♀ taken by A. S. Meek on the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., June—September 1910.

The pale streaks along the folds show traces of a flesh-coloured tinge, which is probably stronger when the insects are quite fresh. Superficially the insect resembles the European *Meliana flammea*. Its nearest ally seems to be *A. brunnea*, Hmps., from S. Africa, which is also recorded from Ceylon, Borneo, New Guinea, and Australia.

#### 76. *Sesamia grisescens* spec. nov.

*Forewing*: dull cinereous dusted with dark atoms; the two folds and the inner margin dull flesh-coloured ochreous, the streaks reaching subterminal line; inner line marked only by a dark spot on submedian fold; outer line lunulate-dentate, very obscure, the tooth on submedian fold marked by a dark spot; a blackish spot on discocellular and another beyond cell; fringe concolorous.

*Hindwing*: dirty whitish, grey-tinged towards apex and termen; fringe whitish.

Underside slightly glossy, uniform dull grey, the hindwing somewhat paler.

Head, thorax, and abdomen dull grey; palpi externally darker.

Expanse of wings : ♂ 32—40 mm. ; ♀ 42 mm.

4 ♂♂, 2 ♀♀ taken by A. S. Meek on the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., August and September 1910. The ♀ is larger than the ♂, but the ♂♂ appear to vary considerably in point of size. Its nearest ally is *S. calamistis*, Hmps., from S. Africa.

#### 77. *Chasmina gracilipalpis* spec. nov.

*Forewing* : shining white ; three black spots in basal half of costa at the usual place of subbasal, inner, and median lines ; a subterminal dark brown gamma-shaped costal blotch, obliquely placed, with two whitish dots on costa and paler centre ; a faint row of black striae before termen joined at anal angle by an equally faint yellowish shade from vein 2 : fringe white ; outer and terminal lines absent.

*Hindwing* : white ; the fringe white.

Underside of both wings white ; hindwing with small dark dots on termen beyond veins 4, 5, 6.

Head, thorax, and abdomen shining white ; top of face with pale brown bar ; terminal segment of palpi pale brown ; tibiae and tarsi spotted as in *rejecta* F.

Expanse of wings : 30 mm.

1 ♀ from Darjiling, June 1886 (H. J. Elwes).

Distinguished from the other species by the more slender and curved palpi, the terminal segment of which is twice as long as in *rejecta* and acute ; the shape of the subterminal costal blotch is also characteristic.

#### 78. *Dadica albanalis* spec. nov.

*Forewing* : dark fuscous, rather greyish fuscous in the ♂ ; lines and markings almost precisely the same as in *D. lineosa* Moore, but the distance between the inner and outer lines less.

*Hindwing* : of ♀ dull pale grey, only slightly paler than in *lineosa* ; of ♂ much paler, the contrast being greater in that the hindwing of *lineosa* is blackish fuscous ; the termen of hindwing is rounded in both sexes, whereas in *lineosa* ♂ the termen is straight from tornus to vein 5, then rounded.

Underside pale grey thickly speckled with coarse fuscous scales ; the outer lines and cell-spots thick and dark ; in the ♂ the space between the rough scaled costal area and the fringed area of inner margin is whitish, unspeckled, interrupting the outer line.

Head, thorax, and abdomen dark fuscous ; anal tuft of the ♂ white.

Expanse of wings : 34 mm.

1 ♂, 1 ♀ from Ceylon (type) ; 1 ♀ from the Khasias appears to be the same species, but is paler ; and the outer line of forewing is almost straight.

The species agrees with *lineosa* in having veins 3 and 4 of hindwing from cell ; whereas in *bipuncta* Snell (= *stellata* Moore) these veins are strongly stalked.

#### SUBFAMILY ERASTRIANAE.

#### 79. *Leptosia griseimargo* spec. nov.

*Forewing* : pale sandy rufous, except the narrow terminal area beyond subterminal line, which is grey, well defined by the crenulate subterminal line ; lines somewhat deeper rufous ; the costal streaks rufous ; inner-marginal area beyond middle diffusely tinged with grey.



*Hindwing* : quite pale grey, especially the unmarked areas in costal half of wing and along submedian fold.

Underside wholly pale grey.

Head, thorax, and abdomen pale rufous; the middle segments of dorsum darker.

Expanse of wings : 17 mm.

1 ♀ from Algeria.

80. **Arisada mollis** spec. nov.

*Forewing* : pale yellowish ochreous; the costal streak whitish ochreous; crossed by five inwardly oblique dull reddish bands; the two antemedian narrow, wavy; the median thicker, touching the cell-spot, which is large and round, dark grey with a paler centre; of the two postmedian the outer is strongly zigzag and angled outwards just below middle; terminal area pale grey, with lunulate inner edge, which is a little darker and projects inwards between veins 5 and 6; a row of black terminal spots; fringe yellowish grey.

*Hindwing* : with a straight pale yellow median line, the basal area dark grey towards the line and ochreous at base; terminal area grey, as in forewing, preceded by a curved and waved grey band; a slight dark cell-spot.

Underside pale ochreous, washed in the forewing, except along inner margin, with dull greyish brown, with three darker bands, median, outer, and submarginal; hindwing with grey cell-spot, straight median grey belt and curved submarginal band.

Head, collar, and forelegs black-brown; thorax and base of dorsum pale ochreous; rest of dorsum yellower and greyer, showing the pale line of hindwings before the anal segment; pectus, legs, and venter ochreous.

Expanse of wings : 30 mm.

1 ♂ from Penang, Malay Peninsula, April 1898 (Curtis).

81. **Bostroides sagittaria** spec. nov.

♂. *Forewing* : red-brown speckled with black; costal streak snow-white, the extreme edge remaining red; inner line whitish, outwardly dark-edged, inwardly oblique and slightly curved; outer line snow-white, slender, inwardly oblique and straight; subterminal line waved, whitish, externally dark-edged; two blackish dots on discocellular one at each end, outwardly tipped with white; from between them a slender straight white streak runs between veins 5 and 6 to termen; black terminal spots; fringe reddish.

*Hindwing* : with the outer line curved, broader, snow-white; the subterminal line distinctly angled outwards between veins 5 and 6; a white line from outer line to termen through the angle; cell-spot black.

♀ darker red-brown; the costal streak cream white; the transverse lines greyish yellow; the black dot at lower end of cell followed by a short oblique pure white dash; no white streak to termen between 5 and 6 on either wing.

Underside shining whitish, greyer in forewing, especially in ♀.

Head, palpi, forelegs, and shoulders red-brown; base of patagia white, connecting the costal streaks; rest of thorax and dorsum red-brown.

Expanse of wings : ♂♂ 30—32 mm.; ♀♀ 28—30 mm.

2 ♂♂, 3 ♀♀ from the Khasia Hills, Assam, the ♂♂ taken in April 1896 and 1897, the ♀♀ in February and May 1896.

82. *Bostrodes rufifecta* spec. nov.

*Forewing*: deep red-brown, darker in the basal area bounded by the outer line; a snow-white costal streak with the extreme edge red; outer line from a red spot in costal streak at two-thirds, bent out below costa, then obliquely sinuate inwards to before middle of inner margin, curved between veins; subterminal line shown by a row of dark spots between the veins; at the lower end of cell a round pure white black-ringed dot; a row of large black lunules along termen; fringe red-brown.

*Hindwing*: with the base browner; a straight, snow-white, unevenly crenulate line just beyond the middle on a band of bright brick-red; the area beyond red-brown, with two blackish wavy bands.

Underside dull grey-white in hindwing, suffused with dull brown in the forewing; the hindwing showing a dark grey pale-edged line.

Head, palpi, forelegs, tegulae, thorax and dorsum deep red-brown; base of patagia snow white connecting the costal streaks; venter grey-white, like underside of hindwings.

Expanse of wings: ♂ 32 mm.; ♀ 40 mm.

1 ♂, 1 ♀, from the Khasia Hills, Assam; the ♂ taken in October 1895, the ♀ in April 1896.

83. *Micardia flaviplaga* spec. nov.

*Forewing*: a mixture of purplish and olive, towards base and along cell diffusely varied with fulvous scales, the inner margin between the lines pale yellow tinged with fulvous; inner line oblique from inner margin near base to submedian fold; the outer from costa before apex is outcurved to vein 6, whitish with a dark line at middle, then incurved to submedian fold, fine and obscure, thence oblique parallel to inner line to inner margin, broad and snow-white; a small black spot on discocellular; terminal area darker olive with a white subterminal line, brightest at costa, and towards anal angle followed by fulvous scaling.

*Hindwing*: brownish fuscous.

Head, pectus, and prothorax pale lilac grey; patagia yellowish, dorsum dark fuscous.

Expanse of wings: 26 mm.

1 ♂ labelled simply Japan. The specimen is slightly worn, and the course of the markings not in all places distinct; it differs from typical *Micardia* in having much longer ciliations to the antennae.

## SUBFAMILY AC'ONTIANAE.

84. *Aiteta angustipennis* spec. nov.

Like *trigoniphora* Hmps., but smaller, and with much narrower forewings, the lobe of inner margin nearer the middle; ground colour more uniformly grey; the green triangle edged with pinkish; fringe of hindwing dark fuscous like the wing.

Underside with the pink areas duller, diffused with grey.

1 ♀ from Engano, September 1890 (W. Doherty).

85. *Aiteta careoides* spec. nov. and ab. *nigrimacula* ab. nov.

*Forewing*: fawn-colour, speckled and tinged with brown; inner and outer lines brown, conversely pale-edged; the inner oblique and slightly curved, the outer bent

below costa, then inwardly oblique, parallel to termen; this line is preceded by a fuscous shade at costa, and the pale line edging it is itself followed by a dark line: subterminal line represented by a row of dark spots; a brown cloud before termen at middle; fringe dark brown; cell-spot brown, preceded by a brown dot in cell.

*Hindwing*: luteous in basal half and along inner margin, the terminal area dull orange, like the fringe.

Underside of forewing deep brick-red; the inner margin whitish; the costal streak and apex dull pink, speckled with dark; hindwing ochreous, the costa and apex reddish speckled with brown: fringe red, in the forewing with the base dark brown.

Head, shoulders, and palpi externally brownish fulvous; thorax and abdomen ochreous; venter red.

Expanse of wings: 30 mm.

A ♂ (type) and ♀ from Penang, 1896 (Curtis); 2 ♀♀ from Youboi, Hainan, June 1904.

In the ♀ from Penang and one ♀ from Hainan the inner line of forewing is preceded on inner margin by a round velvety black spot = *ab. nigrimacula* *ab. nov.*

#### 86. *Aiteta fumata* spec. nov. and subsp. *griseomixta* subsp. nov.

*Forewing*: like that of *elaina* Swinh. in markings, but differs in the fawn-coloured ground being almost obscured by dense olive-fuscous irroration, showing chiefly, as also in *elaina*, in a patch before subterminal line on costa; the scales are arranged in such a manner that they appear shagreened when viewed from the base outwardly; the fringe has the inner half deep pink, the outer white.

*Hindwing*: suffused with fuscous, paler below median, especially in the ♂, where the fuscous is blacker and the veins more strongly marked; fringe as in forewing.

Underside of forewing in **both** sexes blackish, with the costa narrowly and the apex and termen broadly dull pink; of hindwing fuscous, broadly dull pink along costa, with the veins in ♀ pink.

Head and thorax dark purplish brown; the dorsum blacker than in *elaina*.

Expanse of wings: 45 mm.

3 ♂♂ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, November to January 1909 (type); 1 ♀ from Setekwa River, Snow Mts., Dutch New Guinea, October to December 1910 (Meek); 1 ♀ from Angabunga River, British New Guinea, November 1904 to January 1905 (Meek).

The form occurring in the Solomon Islands—subsp. *griseomixta* nov., as represented by a single, somewhat worn ♀ from Tulagi—is much greyer, the fawn-colour of the upperside and the pink of the underside being all but obsolete.

#### 87. *Aiteta rufula* spec. nov.

*Forewing*: rufous ochreous mixed with grey; the basal patch, central area, and termen tinged with fulvous; basal patch edged by a dark curved line, not reaching below submedian fold; inner and outer lines blackish, conversely edged with white, coalescing on inner margin, the fulvous area enclosed containing some irregular dark patches and a black cell-spot, followed on costa by a grey

patch across which the veins are whitish; submarginal line whitish at costa, preceded by dark spots between veins; the terminal area greyish fulvous.

*Hindwing*: brownish fuscous.

Underside of forewing dull pink tinged with grey; a dark blotch at end of cell; hindwing whitish, with costa, termen, and outer line greyish pink; a large dark grey cell-spot.

Head and thorax rufous ochreous; dorsum dark grey with paler rings.

Expanse of wings: 30 mm.

1 ♀ from Cherrapunji, Assam, September 1893.

#### 88. *Carea nebulifera* spec. nov.

*Forewing*: fawn-brown with a violet tinge, thickly speckled with black; viewed from the base outwards lustrous violet grey; lines brown, straight and parallel, conversely pale-edged, each followed by an olive tawny shade; cell-spot black, above a small dark cloud; faint traces of a dark submarginal line; termen, apex, and fringe pale brown; apex slightly produced, termen somewhat sinuous.

*Hindwing*: dull orange, the inner margin olive grey.

Underside olive ochreous along costa of forewing, whitish along inner margin, reddish orange between; hindwing ochreous, the costal and terminal areas reddish speckled with olive brown.

Head and shoulders pale rufous; thorax and patagia darker, more brownish; dorsum dark olive fuscous; venter and legs ochreous tinged with rufous.

Expanse of wings: 36 mm.

1 ♂ from the Khasia Hills, Assam.

#### 89. *Carea trilineata* spec. nov.

*Forewing*: dull brownish fulvous speckled with black; lines blackish; inner and outer nearly vertical on each side of the black cell-spot, the outer slightly bent below costa; submarginal line thicker, dentate, somewhat interrupted between 4 and 6; a diffuse dark cloud oblique from bottom of inner line to end of cell; fringe dark brown, marked with two white lunules at anal angle; in the ♀ with short white dashes at ends of veins.

*Hindwing*: orange reddish, paler towards base and costa, olive grey along inner margin.

Underside of forewing fawn-colour along costa, glossy bone-colour along inner margin, orange red between; termen fuscous-speckled mixed with white scales at apex; fringe dark brown; hindwing yellow ochreous, tinged with reddish along costa and termen with darker speckling; an angulated red cell-spot.

Head and thorax brownish fulvous; dorsum olive fuscous; venter and legs rufous ochreous; tarsi brown with pale joints; palpi externally brown.

Expanse of wings: 38—41 mm.

1 ♂ from the Khasias, July 1896 (type); 1 ♀ Poeh Mts., Sarawak, Borneo, July 1892 (Everett); 1 ♀ from Penang.

#### 90. *Carea diluta* spec. nov.

Closely resembling *C. trilineata* Warr., but larger; the forewing more fulvous, and clouded with dark shades.

*Hindwing*: paler, suffused all over with pale orange, the inner margin hardly grey.

Underside of both wings pale ochreous, tinged with rufous along costa and termen, without dark speckling or white scales at apex of forewing; the disc of forewing not orange red.

Thorax and patagia brighter fulvous.

Expanse of wings: 44 mm.

1 ♂ from Rukit Putus, Selangor, 3000 ft., May 1896 (Curtis) (type); 2 ♂♂ from Gunong Ijan, 2000—3000 ft., March 1898 (Butler).

#### 91. *Carea venusta* spec. nov.

*Forewing*: rich deep vinous fulvous, the lines and shadings purplish black; the base, costa, inner margin, and termen beyond subterminal line all suffused with dark; inner and outer lines thick, vertically waved; a large subquadrate blotch at end of cell, connected with an oblique blotch from inner margin; fringe purplish black.

*Hindwing*: pure white: the termen from apex to vein 2 dusted with dull pink; the veins pale pink.

Underside of forewing purple red in costal half, pale ochreous below middle; the costal streak and termen, especially towards apex, dusted with white scales; hindwing white, dusted with purple scales on costal half and termen above middle.

Face, vertex, and shoulders bright fulvous red, the last black-edged; thorax and patagia dark purple; dorsum olive fuscous, purplish towards anus, the tufts of which are yellow ochreous; venter and legs pale purplish and white; tarsi purple black and snow-white; palpi dark purple peppered with white.

Expanse of wings: 40 mm.

1 ♂ from the Taiping Hills, Malay Peninsula, August 1904 (F. M. S.).

#### 92. *Carea balteata* spec. nov.

*Forewing*: rufous ochreous with a few brown speckles; crossed by a broad, dark brown median fascia, bounded by the slightly darker brown inner and outer lines, both excurved below middle; subterminal line brown, forming a thick crescent at costa, sharply angled outwards on vein 6, then slightly marked to anal angle; cell-spot black, preceded by a small fulvous mark; a fulvous tinge along submedian fold across the band; fringe chequered dark and light, beyond a fine dark terminal line.

*Hindwing*: yellowish orange.

Underside ochreous: costa and termen of both wings speckled with reddish; disc of forewing orange red, cell-spot of hindwing red.

Head and thorax rufous ochreous; dorsum grey; venter and legs rufous.

Expanse of wings: 38 mm.

1 ♀ from Rukit Putus, Selangor, Malay Peninsula, 3000 ft., May 1896 (Curtis).

#### 93. *Carea carneplagiata* spec. nov.

*Forewing*: flesh-coloured ochreous suffused with deep purplish brown, the pale ground colour shown only in an irregular oval patch from costa to vein 1, bounded externally by the waved double outer line, and containing some brown

flecks and the black cell-spot ; space between outer and subterminal lines deeper flesh-colour above vein 3 and interrupted beyond cell ; the veins finely flesh-colour towards termen ; fringe deep red or purplish.

*Hindwing* : whitish at base, olive grey along inner margin, the termen bright rosy pink.

Underside of forewing pink, along inner margin glossy white ; the costa pale fawn-colour ; apex with a dark purplish brown cloud sprinkled with white scales ; fringe deep red ; hindwing ochreous, dusted with rufous along costa ; the termen from apex to vein 2 tinged with purple brown ; fringe pink.

Head, shoulders, patagia, and thorax deep purple flecked with fulvous ; dorsum grey with whitish segmental rings ; venter and pectus pure white, legs white flecked with purplish.

Expanse of wings : 30 mm.

2 ♀♀ from Penang, 1896, and May 1897 (Curtis).

#### 94. *Carea albimargo* spec. nov.

*Forewing* : rich deep fulvous, more or less obscured by olive-fuscous suffusion ; costal streak snow-white almost to apex ; a subcostal streak, the cell before cell-spot, a streak along submedian fold from near base, the space immediately preceding outer line below middle, and the veins before termen are all fulvous ; the cell-spot lies in a broad dark shade running externally towards apex and internally towards bottom of inner line ; the dark waved outer line, which is plain, forms a strong projection outwards between veins 3 and 4 ; terminal intervals between veins olive fuscous, on which the subterminal line is marked by patches of white scales edged with black, the terminal spots being similar, but smaller ; fringe with basal half fulvous mottled with olive fuscous, the tips silvery white.

*Hindwing* : glossy olive-grey, the veins towards termen and fringe dull pink ; basal area and inner margin somewhat paler.

Underside of forewing fuscous and grey ; costa reddish ; veins towards termen reddish ; a broad dark fuscous submarginal shade beyond which the termen is speckled grey and black ; an ochreous patch at end of cell ; fringe red in basal half, white in apical ; hindwing whitish, with dark cell-lunule ; the veins pink ; costa and termen broadly speckled with purple ; fringe as in forewing.

Head, shoulders, and patagia purplish brown ; the thorax reddish fulvous ; dorsum glossy olive-grey ; venter whitish ; fore and mid legs purplish fawn-colour ; the first segment of foretarsus broadly white externally.

Expanse of wings : 40 mm.

1 ♀ from Kina Balu, N. Borneo (Everett).

#### 95. *Carea vulpina* spec. nov.

Resembles *C. albimargo* in markings, but smaller in point of size.

*Forewing* : with the ground colour olive rufous, much less suffused with grey, which is confined to the basal and terminal areas and the cloud around and below cell-spot ; inner and outer lines olive ; the inner oblique and irregularly waved ; the outer formed of lunules between the veins, indented on the folds and excurved between, not forming so strong a projection between veins 3 and 4 ; veins towards termen more finely rufous, the dark intervals broader ; subterminal line formed of wedge-shaped dark spots edged with white scales ; fringe rufous ; costal streak more narrowly white.

*Hindwing* : olive fuscous, with veins towards termen and the fringe dull pink.

Underside of forewing rufous, diffusely fuscous in and beyond cell; the intervals dusted with fuscous; some white scales before apex; fringe rufous; hindwing whitish speckled with fuscous and rufous along costa and broadly along termen; the veins and fringe rufous.

Head and thorax bright rufous; dorsum glossy grey, the anal tip rufous; venter whitish; first segment of foretarsus broadly white.

Expanse of wings : 37 mm.

1 ♀ from the Poeh Mts., Sarawak, Borneo, July 1892 (Everett).

#### 96. *Carea hepatica* spec. nov.

*Forewing* : dull red-brown with an olive tinge; the lines and shadings purplish; the basal and terminal areas purplish; the lines dark brown, oblique and slightly waved; the outer projecting strongly below middle, as in *calpina* and *albimargo*, and followed by another dark line; subterminal line formed of darker spots between veins, outwardly edged by spots of bluish grey; cell-spot diffuse, dark, on an obliquely transverse deeper shade; fringe concolorous.

*Hindwing* : dull orange red terminally, the inner margin olive grey.

Underside of forewing dull reddish, darker terminally; hindwing ochreous, tinged with reddish along costa and termen.

Head and thorax like forewings; dorsum olive grey; venter and pectus white.

Expanse of wings : 36 mm.

One ♀ from Ramboekers, Tondano (Weigall).

This species is closely allied to *C. calpina* and *C. albimargo* Warr.

#### 97. *Carea mediogrisea* spec. nov.

*Forewing* : dull red-brown, speckled with dark brown; inner and outer lines dark brown, thick, conversely concave, farther apart on inner margin than on costa, enclosing a wide oval space of lilac grey with the black cell-dot in middle; the costa between and on each side of the lines marked with whitish grey scales; subterminal line preceded on costa by a brown blotch, interrupted below 6, and cloudy to anal angle; a pale grey blotch at apex; fringe brown with large white spots at the ends of the veins.

*Hindwing* : pale orange red, along costa whitish.

Underside ochreous, in the forewing suffused, in the hindwing speckled with rufous; some dark grey mixed with white scales at apex of forewing; fringe of forewing deep brown with round white spots.

Head and thorax fulvous brown; dorsum dark grey; venter and legs rufous ochreous.

Expanse of wings : 44 mm.

1 ♂ from Mt. Mulu, N. Borneo, 1000—4000 ft. (Hose).

#### 98. *Carea antennata* spec. nov.

*Forewing* : rufous brown, rather darker in the ♀; lines ferruginous, oblique and parallel, the inner slightly, the outer more strongly sinuous; subterminal line marked by chocolate brown spots between the veins, outwardly edged with pale scales; some pale scales also at termen between the veins which are rufous; fringe

dark brown in basal half, white mottled with pink in apical; cell-spot obscure, placed on a diffuse oblique dark shade; outer line often followed by a dark shade; owing to the dark brown suffusion all the markings are more obscure in the ♂.

*Hindwing*: olive grey at base, terminally reddish, brighter in ♂ than ♀.

Underside of forewing deep rufous, sprinkled with white along costa; some brown scales mixed with white before apex; fringe dark brown tipped with red; hindwing ochreous thickly irrorated with rufous, mixed along costa with brown.

Head, thorax, and dorsum dark red-brown, paler in ♂; venter, pectus, and legs rufous; tarsi white flecked with purple.

Expanse of wings: 40 mm.

2 ♂♂, 2 ♀♀ from Kinabalu, N. Borneo.

The ciliations of the antennae of the ♂ are longer than usual in the genus.

#### 99. *Carea fulvescens* spec. nov.

*Forewing*: deep fulvous red, more or less entirely obscured by deep purplish suffusion; a small patch near base of inner margin, a patch in cell, and the space before and beyond the praesubmarginal shade alone remaining fulvous; costal edge fulvous red; lines very indistinct; the inner oblique, the outer nearly vertical, both slightly waved; fringe purplish.

*Hindwing*: whitish along costa, olive grey on inner margin, terminally rather bright orange red.

Underside of forewing rufous, deeper in cell; some brown scales along costa towards apex; fringe dark purplish brown marked with white at tornus; hindwing ochreous tinged with rufous along costa and termen with some brown scaling.

Head and thorax purplish brown; dorsum olive grey; venter ochreous; legs tinged with rufous.

Expanse of wings: 30 mm.

1 ♂ from Mt. Gedé, West Java, 4000 ft., 1898 (Fruhstorfer); 2 ♀♀ from Little Kei Island (H. Kühn), both somewhat worn, appear to belong here; in the forewing they are more suffused with deep purple, and the hindwing is much deeper red.

#### 100. *Carea papuensis* spec. nov.

*Forewing*: dull red-brown irrorated with black, with a bronzy purplish flush; inner and outer lines chocolate brown, oblique and parallel, enclosing the black cell-spot, below which a diffuse dark shade runs obliquely from bottom of inner line to lower end of cell; basal area and space between outer and subterminal lines darker, especially along a shade immediately preceding the latter line; fringe bronzy purplish, with a white spot at anal angle.

*Hindwing*: deep red; the inner margin olive fuscous.

Underside of both wings deep brick-red; the inner margin of forewing pale; apex of both wings sprinkled with purplish scales; fringe of forewing deep purple; of hindwing red mottled with purple towards apex.

Head, thorax, shoulders, and patagia olive brown; dorsum olive grey; the anus red; venter, pectus, and legs red; forelegs with first tarsal segment broadly white externally.

Expanse of wings: ♂ 36 mm.; ♀ 34 mm.

1 ♂, 1 ♀ from Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).



Genus **Autanthema** gen. nov.

Tongue present; frons smooth, with a slight tuft above, thinly scaled below; palpi upturned, the second segment broadly scaled in front, the third pointed; antennae of ♂ filiform, simple, in both sexes nearly as long as forewing; thorax smoothly scaled; the metathorax with a flattened tuft; two small tufts on basal segments of dorsum; pectus and femora woolly; forewing of equal width throughout; the costa curved, apex rounded, termen curved; veins 7, 8, 9 quite shortly stalked; hindwing with veins 3, 4 stalked; the coloration in the sexes different. Type: *A. diversicolor* spec. nov.

101. **Autanthema diversicolor** spec. nov.

♂. *Forewing*: bright olive green in basal half, crossed by a wavy white line near base, and limited by a white line running from costa before middle to inner margin before anal angle, angled outwards at upper end of cell, then sinuate, vertical below 2; beyond this line bright blue, becoming deep blue mixed with black before the white subterminal line, which forms a white blotch at anal angle running out into the fringe, and is followed by a blue-black spot on costa and a blue-black band below vein 6, the apex and apical fringe being white; some black terminal lunules between veins 2 and 6; fringe grey from 6 to 2, white above and below.

*Hindwing*: black; the fringe grey, paler in apical half.

Head, shoulders, patagia, and dorsal tufts on basal segments olive green; thorax green and white; abdomen orange.

Underside of both wings black with the apical fringes white.

♀. *Forewing*: with a deep green patch at base of costa, followed by an oblique band of pale fawn-colour speckled with green, edged by the white inner line, which is angled outwards on subcostal vein, indented on median, then excurved; outer line as in the ♂, but bent inwards below vein 2 to beyond middle of inner margin; the area between the lines deep green; the area beyond outer line bright brick-red, edged by the diffuse white subterminal line, which is less distinct than in the ♂, and is followed by a red spot at costa and reddish band from 6 to 2, where there are black terminal lunules; fringe red in middle, white at each end.

*Hindwing*: black; the fringe brick-red, black below vein 2.

Head pale green; shoulders and patagia dull ferruginous; thorax white tipped with ferruginous orange; the basal tufts of dorsum orange; abdomen green overlaid with yellow.

Underside of both wings black in basal half, dull red in outer.

Expanse of wings: ♂ 28 mm.; ♀ 32 mm.

1 ♂, 3 ♀♀ from Upper Setekwa River, Snow Mts., Dutch New Guinea (Meek).

Genus **Tridentifrons** gen. nov.

Tongue absent; frons produced into a conical process ending in front in a trifid beak; the frons itself and the vertex above rough-haired; palpi porrect, the second segment densely rough-haired, the third short, rounded, depressed; antennae of ♂ (?), of ♀ lamellate, with short fine bristles; abdomen elongate; forewing elongate triangular, the costa slightly arched at base, the apex prominent, termen obliquely curved, hardly crenulate; venation normal. Type: *T. insularis* spec. nov.

102. *Tridentifrons insularis* spec. nov.

*Forewing*: greyish ochreous, tinged in and below cell and along termen with brownish fuscous; a black streak from base below cell; the lines very indistinct; the inner excurved above and below median vein, on which and on vein 1 it is inwardly dentate; outer line lunulate-dentate, outcurved above round cell; orbicular stigma small, round, dark at centre with a pale ring; reniform limited internally by a pale lunule followed by a dark one and externally undefined; subterminal line pale, but ill-defined, preceded by a row of curved blackish wedge-shaped marks between veins 2 and 7; median vein and veins towards termen pale grey; the terminal dark shade obliquely limited above by a pale streak from apex; a row of terminal black lunules; fringe with dark brown traversing line.

*Hindwing*: pale grey, darker along termen; fringe pale with base yellow and the tips white beyond a dark dividing line.

Underside greyish ochreous, greyer in forewing; terminal lunules and fringe as above; hindwing ochreous with round dark cell-spot and obscure curved outer line.

Head, shoulders, and patagia brownish; thorax and abdomen shining grey like hindwings.

Expanse of wings: ♀, 44 mm.

2 ♀♀ from Palabuan, Java.

103. *Beara simplex* spec. nov.

*Forewing*: dull lilac grey, slightly dusted with olive rufous; the lines very obscure, placed as in *nubiferella* Wlk.; the shade from anal angle present beyond outer line; the subterminal line indented only on vein 5; the terminal dots minute; fringe grey with a rufous flush.

*Hindwing*: greyish white, washed with olive rufous in outer half; the fringe rufous grey.

Underside whitish tinged with grey in forewing, with the interior dull rufous; hindwing dusted with rufous at apex.

Head and thorax olive grey; the abdomen rufous grey; pectus, venter, and legs whitish.

Expanse of wings: 26 mm.

1 ♀ from Adonara, November 1891 (W. Doherty).

The termen of forewing is quite simple, neither indented below apex, nor gibbous below middle; veins 3, 4 of hindwing stalked.

104. *Ariola triangulifera* spec. nov.

This species differs from *A. coelisigna* Wlk., the type of the genus, in the wings being shorter and broader; the dark green costal area, instead of being a shallow curve, is triangular in shape, the apex of the triangle lying on submedian fold; the inner edge starting from costa near base instead of from the base of wing itself; the white limiting patches interrupted at the apex.

New Georgia (type) and Guadalcanar, Solomon Islands; Milne Bay, New Guinea; Amboina.

105. *Ariola pallidithorax* spec. nov.

Like *coelisigna* Wlk., but smaller; the thorax and patagia white instead of greenish; the white patch at base of inner margin, as well as the smaller violet

patch on it, broader. In the hindwing veins 3, 4 are on a longer stalk, and 5 is stalked with them.

3 ♂♂ from Tambora.

The two species of *Ariola* above described belong to a different section of the genus from *coelisiqna* Wlk., the ♂ of which possesses a small gland in the anal angle of hindwing.

106. **Tathothripa abbreviata** spec. nov.

*Forewing*: differs from *T. continua* Wlk. ♂ (= *deflexa* Wlk. ♀) in the white area of the inner margin being cut short just beyond the indentation, which in this species is just beyond and not before middle of wing, almost the anal third being dark; the dark costal portion of wing is obscurer, the cross-lines not being followed and emphasised by paler scaling; both wings are darker, deeper fuscous, both above and below; and the abdomen is blackish grey.

1 ♂, the same size as *continua*, from the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000—3000 ft., September 1910 (A. S. Meek).

The species is remarkable on account of the exaggerated length of the abdomen.

107. **Tathothripa nigricristata** spec. nov. and ab. **inversa** ab. nov.

*Forewing*: with the white inner-marginal area, as in *abbreviata* Warr., interrupted beyond the indentation, which, as in *continua*, is not beyond the middle of wing, but the curved upper edges of the two patches towards anal angle remain grey, and the dark cross-lines are very clearly followed by pale grey spaces; the hindwing is black with pale fringe; the white tuft on metathorax is tipped with black scales; the abdomen, which in this form is not particularly elongate, is dull blackish with yellowish anal tuft; in all the specimens of *continua* Wlk. that I have seen, those with the whole inner margin white are ♂♂, and those with the curved basal portion only white are ♀♀; in one of three specimens of the present species—ab. **inversa** ab. nov.—this distinction does not hold good, as, though an undoubted ♂, it shows only the white basal area of the ♀.

All three examples are from the Ninay Valley, Central Arfak Mts., Dutch New Guinea.

108. **Tympanistes alternata** spec. nov.

*Forewing*: pale greyish ochreous with a greenish tinge; the lines purplish grey, wavy, double; the arms far apart; inner line oblique outwards to median vein, then inwards; the space between them filled in with olive brown tinged with reddish; a reddish blotch at base of inner margin, with a black dot above on median vein; outer line excurved from subcostal vein to vein 2, the space between the arms filled in with olive brown or reddish; subterminal line very strongly waved, projecting outwards between veins 6, 7 and 3, 4, also followed by a less distinct grey arm; terminal spots round and black; fringe pale ochreous; the median area between the two fasciae is generally filled up with reddish fuscous below submedian fold.

*Hindwing*: deep brick-red, paler along costa; fringe red.

The ♀ is much paler in both wings.

Underside of ♂ dull red, of the ♀ more ochreous red.

Head and thorax concolorous with the pale ground colour of forewing; dorsum deep red in ♂, ochreous tinged with red in ♀.

Expanse of wings: 32 mm.

2 ♂♂, 1 ♀ from the Khasia Hills, Assam.

109. *Maceda rotundimacula* spec. nov.

*Forewing*: pale grey tinged with olive and much suffused with dull rufous; the apical area blackish fuscous, its inner edge diffuse, curved from just beyond middle of costa to above tornus; at the apex a round whitish spot; before the dark apical area the ground colour is grey without any rufous mixture; the upper part of it is formed by the broad black outer line, which below vein 5 becomes vertically dentate and olive rufous; subbasal line black, swollen on inner margin; inner line interrupted and obscure, apparently shaped as in *rufescens* Beth.-Baker, marked by a dark spot on costa and inner margin, and indented on submedian fold; cell-spot black.

*Hindwing*: black along termen and inner margin, smoky fuscous towards base, with the veins black and a whitish patch between the bases of veins 2 to 5; the fringe with a white patch beyond submedian fold.

Underside fuscous with the apex brown; the foveal space in cell small and inconspicuous; hindwing white: the terminal border broad and blackish, not reaching above vein 6, its inner edge angled inwards on submedian fold, its outer with a white terminal patch on it; cell-spot black; fringe white.

Head, palpi, and tegulae dark fuscous; thorax and patagia rufous, like basal area of forewing; dorsum fuscous; the anal tuft of ♂ ochreous yellow; venter and pectus dull white.

Expanse of wings: 30 mm.

2 ♂♂ from the Angabunga River, British New Guinea (type), and Mackay, Queensland.

110. *Maceda ignefumosa* spec. nov.

*Forewing*: olive cinereous; a fiery red patch at base of costa traversed by the black subbasal line, and ending just below median vein in two bright yellowish white spots, one on either side of the line; inner line blackish, thick and diffuse from costa to median vein, on which it is indented, again indented on vein 1 and outcurved above and below it; at costa it is preceded by a dark cloud of black and red intermixed; cell-spot narrow, black; outer line black, shaped much as in *mansueta* Wlk.; subterminal line marked only by the edge of the dark shade preceding it, which at costa is mixed with reddish; terminal shade slightly darker; fringe dull purple, with minute white dots at base.

*Hindwing*: dull smoky purplish grey, with the veins blackish and the terminal border broadly black; a narrow whitish streak at base of submedian fold; fringe fuscous from apex to vein 4, fuscous and white below, wholly white and broader beyond veins 3 and 4.

Underside of forewing fuscous, the inner margin narrowly white, the costa and apex reddish brown; hindwing bluish white with a black cell-spot; terminal border broadly black; fringe black above vein 3, white below.

Head and palpi black; thorax olive cinereous; base of tegulae with a fiery orange belt; abdomen olive brown tinged with fuscous; pectus, venter, and

inside of legs white; legs black mixed with white, the tarsi black with the joints white.

Expanse of wings: ♂ 36 mm.; ♀ 40 mm.

5 ♂♂, 12 ♀♀ from New Guinea: Biagi, Mambare River; Angabunga River; Upper Setekwa River; Oetakwa River; Ninay Valley.

111. *Maceda rufibasis* spec. nov. and ab. *interjuncta* ab. nov.

*Forewing*: with the basal area olive rufous; the subbasal line black, projecting and swollen along inner margin: the rest of wing suffused with purplish fuscous, the median area darkest, leaving the apical space above vein 6 between the outer line and terminal shade whitish or brownish, traversed by the blackish subterminal line, preceded on costa by a dark blotch; the median area is edged internally by a broad pale oblique slightly curved whitish line, which sometimes is absent; the outer edge of median area at costa and inner margin is followed by a whitish ochreous line, which often reaches across wing; the black cell-spot is followed by a white dot; fringe brownish fuscous, with a pale line at base.

*Hindwing*: with broad black marginal border running up below cell to base; the base of veins 2 to 5 white, the cell and space beyond smoky grey, with the veins and cell-spot black; fringe white from vein 5 to anal angle, with a slight white tooth at end of submedian fold.

Underside of forewing fuscous with the apex brown; in the ♂ the costa at base and the interspaces between the bases of veins 2 and 4 white; the outer half of cell hyaline white; hindwing white, with broad black terminal border leaving two white patches along termen; cell-spot black: fringe white except at apex.

Head, thorax, and abdomen concolorous with basal area of forewing, the dorsum blackish; venter and pectus white; legs fawn-colour; tarsi black with white joints.

Expanse of wings: 34 mm.

7 ♂♂, 2 ♀♀ from New Guinea: Upper Aroa River; Biagi, Mambare River; Angabunga River; Ninay Valley, Arfak Mountains (type); and Brisbane, Queensland.

A form analogous to one of the aberrations of *mansuetu* Wlk. occurs also in this species—ab. *interjuncta* ab. nov.; the outer third of forewing is brownish or brownish flesh-colour, with the submarginal line black and strongly dentate across it; the outer line also acutely dentate, and emitting a dark streak along vein 6 to the terminal cloud; the median area in this form does not remain black, but becomes either rufous olive like the basal area or whitish with the lower third black.

2 ♂♂ from the Ninay Valley, Arfak Mts.

SUBFAMILY NOCTUINAE.

112. *Arcte papuensis* spec. nov. and ab. *albimixta* ab. nov.

*Forewing*: brown suffused with darker, and sparsely dusted with bluish scales; the lines black; a large black blotch at base above vein 1, sometimes reaching through cell to costa; the subbasal line marked narrowly on costa; inner line black, angled outwards on submedian vein and outcurved above and below

vein 1; a blackish blotch on subcostal vein above reniform; orbicular a small black dot; reniform brownish ochreous, marked with black spots as in *modesta*; median shade thick, twice incurved below the median vein; outer line oblique outwards and sharply angled on vein 4, then oblique inwards, twice incurved below vein 2 and angled outwards on vein 1; beyond it a thick black oblique shade from costa, followed by a patch of white scales on costa; submarginal line pale, preceded by a large black patch below vein 6 and again from 2 to inner margin; terminal area with black marks between the veins below 6; a row of black terminal spots; towards the termen the brown shows coppery fulvous reflections.

*Hindwing*: slaty blackish; the markings as in *granulata*.

Underside slaty black; a broad slaty blue band beyond outer black band and the terminal area slaty blue with some dark shades; an oblong slaty blue streak before the black band beyond cell in forewing and a series of them between the veins in hindwing; costa of forewing bright fulvous.

Head and thorax rufous olive brown mixed with bluish scales; dorsum slaty fuscous.

In the ab. *albimixta* ab. nov. the median area of forewing along costa, the cell and space beyond, and that below median vein beyond inner line, are all marked with white scales.

Expanse of wings: 85 mm.

2 ♂♂, 2 ♀♀—one pair representing the type, the other the aberration—from Ninay Valley, Central Arfak Mountains, Dutch New Guinea, 3500 ft., November 1908 to January 1909.

The wings are broader and shorter than in *granulata* Guen., the hindwing more rounded.

### 113. *Carteia subpallida* spec. nov.

Resembles *C. luteiceps* Wlk., but smaller; the ♂ darker, the ♀ paler; the lines in the ♀ paler, rust-colour; the reniform stigma darker; the chief differences are found on the underside; this is ochreous instead of yellow, without black speckling; the forewing with scarcely a trace of outer line, and the terminal border of hindwing as broad and dark as of forewing in both sexes; the ab. *deminuta* ab. nov. is a small grey form with the reniform stigma prominently black.

Expanse of wings: ♂ 30 mm.; ♀ 28 mm.; of *deminuta* 24 mm.

A very large number from various localities in Hainan, including three examples of the aberration.

### 114. *Carteia stigmatica* spec. nov.

♂. *Forewing*: fawn-colour; the lines dark brown and straight; the inner vertical and thick; the outer, beyond one-third, finer, followed, after a narrow pale interval, by a thick brown slightly curved line with a faint brownish dentate-edged shade beyond it; space between inner and outer lines suffused more or less with brownish; reniform stigma large, pale green edged with brown; a faint row of dark dots before termen; fringe paler.

*Hindwing*: fuscous ochreous or fuscous grey, with a broad blackish terminal border preceded by a dark outer line; fringe rufous.

♀. *Forewing*: much paler; the lines thinner; the slender outer line hardly marked; the reniform smaller.

*Hindwing*: with inner two-thirds dirty whitish.

Underside ochreous; the costa and fringe of forewing yellow; a large cell-spot and broad terminal border blackish; hindwing brown-speckled; the cell-spot smaller; the border fainter.

Expanse of wings: 36 mm.

1 ♂ from the Khasia Hills, May 1894 (type); 1 ♂ from Maymyo, Upper Burma, May 1900 (Col. Bingham); 1 ♀ from Haipaw, N. Shan States, February 1897.

The Burmese ♂ is darker than the typical ♂ from Assam; the ♀ from Haipaw is much paler, but is somewhat worn.

#### 115. *Carteia grisea* spec. nov.

*Forewing*: dark brownish grey; the costal edge narrowly ochreous, with a brown spot at the rise of the lines; inner line very indistinct, pale grey, marked externally with dark above and below the median vein; outer line oblique to vein 8, then straight and vertical, pale ochreous, with both edges crenulate, touching a diffuse dark fuscous line, which curves outwards towards costa, followed by a brownish fascia edged by the dark wavy subterminal line; terminal area blackish grey; terminal dots black; fringe pale grey.

*Hindwing*: dirty grey; the terminal border broad and black, with straight inner edge; fringe whitish.

Underside of forewing white with costa broadly ochreous; a dark cell-spot and outer line of spots between veins, angled at vein 8; terminal border broadly blackish; hindwing the same; fringes pale.

Face and palpi ochreous; thorax (damaged) grey; dorsum dark fuscous; venter, pectus, and legs ochreous.

Expanse of wings: 36 mm.

1 ♀ from Oinainisa, Dutch Timor, November—December 1891 (W. Doherty).

#### 116. *Carteia taeniata* spec. nov.

*Forewing*: pale fawn-colour, speckled with brown and fuscous; inner and outer lines very obscure, marked by dark dots between the veins; reniform stigma a faint brownish lunule with a dark dot at middle; close beyond the outer line a thick brown line, slightly concave outwards, followed by an olive brown shade with irregularly dentate outer edge, defining the subterminal line; terminal dots minute; fringe concolorous.

*Hindwing*: fuscous grey, with dark cell-spot and outer line; a broad black terminal border with straight inner edge; fringe white.

Underside ochreous, dark-speckled, with cell-spot, outer line of spots, and terminal border blackish; fringe ochreous.

Head, thorax, and abdomen brownish ochreous; the palpi paler; pectus, venter, and legs pale ochreous, the tarsi brown.

Expanse of wings: 30 mm.

1 ♀ from Penang, May 1898 (Curtis).

Allied to *C. grisea* from Timor, both species having a brown fascia before subterminal line; distinguished by difference in size and coloration; both are nearly allied to *C. nebulilinea* Wlk. from Borneo, the type of the genus.

Genus **Bessacta** gen. nov.

Tongue present; frons smooth; antennae of ♂ typically armed with bristles, sometimes pectinated; forewing elongate triangular, the costa straight, the apex subacute; hindwing of ♂ with apex rounded; palpi upcurved in front of face, the second segment well-haired; the third erect; legs of ♂ all hairy; the mid and hind tibiae broadly fringed; the fore coxae and femora hairy; forewings fawn-colour, with velvety black markings broken up by the pale lines and veins. Type: *B. polyspila* Wlk.

117. **Bessacta javensis** spec. nov.

Resembles *B. pectinata* Hmps. in the structure of the antennae of the ♂, but separated by numerous differences in the shape and arrangement of the black markings, in some of which it is nearer to *polyspila* Wlk.

*Forewing*: with the ochreous ground colour suffused with brownish grey and dusted with fuscous, the costal edge remaining yellow ochreous; the inner line runs obliquely outwards, pale, to median vein, marked by dark dots on subcostal and median, joining there the black blotch, which is somewhat broader and not pointed at top, preceded on inner margin by a diffuse black spot, and followed immediately on median vein by two black spots with pale edges, of which the round upper one represents the orbicular stigma; reniform broader and more conical, the black blotch below also broader and reaching inner margin, more plainly marked by slight yellow curved lines; vein 3 and the other veins towards termen more prominently yellowish; the black lunules before outer line only four in number, the fifth being confluent with the reniform; the black apical blotch larger; the quadrate black blotches before subterminal line larger and with a narrower one above them; the lower two of the other three spots larger and rounder; the space between the lines black; the terminal black spots larger and the fringe darker-mottled.

*Hindwing*: with the basal area more conspicuously pale.

The underside of wings, the head, thorax, and abdomen do not appreciably differ from those of *pectinata*, with which it also agrees in size.

1 ♂ from Java.

118. **Bessacta columnaris** spec. nov.

*Forewing*: quite pale ochreous, faintly speckled and tinged with grey-brown; all the veins and margins of the black marks conspicuously pale ochreous; subbasal line represented by two black spots, above and below subcostal vein; inner line marked by black dots on costa, subcostal, and median veins, the last followed by a subquadrate spot in cell, obliquely below which is a large trapezoidal blotch in submedian interval, and below vein 1 nearer base a smaller black blotch traversed by a pale line; reniform stigma bluntly conical, forming with the black blotches below it a pillar-like mark with pale uneven edges, quite separate from the five black spots before outer line, which is bent inwards along vein 3; the pale edgings of the submarginal black blotches broader, the upper ones three in number like the lower; a row of black terminal triangles edged with pale; fringe pale ochreous.

*Hindwing*: fuscous, paler basewards, with a pale sinuous outer line before the darker terminal border; cell-spot dark; fringe pale.

Underside greyish ochreous, the terminal area of forewing diffusely fuscous,



with two conspicuous white spots on each side of vein 7 before termen, preceded by two yellowish spots beyond two dark ones; a terminal row of dark brown lunules edged with pale ochreous; fringe pale ochreous, strongly chequered with brown; hindwing brown-dusted on costa and termen, with grey cell-spot and outer line.

Head, thorax, and abdomen pale ochreous; palpi externally, vertex, shoulders, base of patagia, and tips of metathoracic and dorsal tufts brown; antennae of ♂ ciliated, and with curved bristles.

Expanse of wings: ♀ 40 mm.; ♂ 42 mm.

A pair from Bunguran, Natuna Island, July to October 1894 (Hose).

#### Genus *Trichoptya* gen. nov.

Distinguished from *Bocula* Guen. by the hindwing of ♂ possessing a long pencil of hairs lying along costa on upperside, capable of being expanded in the form of a fan; anal tufts of ♂, when unexpanded, covered by a chitinous shield; when expanded, showing a pair of lateral tufts from the praeanal segment; antennae of ♂ ciliated, with curved bristles from each segment.

Type: *T. sejuncta* Wlk.

#### 119. *Trichoptya inquinata* spec. nov.

*Forewing*: fawn-colour tinged with grey; inner and outer lines grey-brown, interrupted, and only just traceable; median shade thick, diffuse, and wavy; subterminal line pale, defined by grey shading on each side, externally by a dark apical streak and slight patches on the two folds; an oblique black spot in cell and another at its end in the median shade; large black spots along termen.

*Hindwing*: fuscous; the cell and costal area above it blue-black; the costal tuft of hairs black with the tips yellowish.

Underside of forewing fawn-colour; the inner margin dull white; the cell purple black; hindwing greyer freckled with brown, darker grey along costa; cell-spot grey; a faint curved outer line.

Head and thorax fawn-colour; dorsum grey-brown.

Expanse of wings: 30 mm.

1 ♂ from Tambora, low country, April—May 1896 (Doherty).

#### 120. *Trichoptya expansilis* spec. nov.

*Forewing*: of ♀ pale greyish fawn-colour, dusted with black and olive scales and with a violaceous tinge in certain lights; of ♂ darker grey; a black speck at base of cell and one at its end on discocellular; the lines oblique and wavy, diffuse, formed of olive scales, and very indistinct in the dark ♂; subterminal line marked by black lunules between the veins, inwardly pale-edged, oblique from apex and indented on each fold, followed by a darker tint, especially at apex, all indistinct in the ♂; terminal dots black; fringe concolorous.

*Hindwing*: fuscous grey in the ♀, blackish in ♂; the costal tuft fawn-colour.

Underside silky fawn-colour, thickly black-speckled, with dark cell-spot and outer line.

Head and thorax like forewing; dorsum darker, like hindwing; palpi externally fuscous, the tips paler.

Expanse of wings: 30 mm.

3 ♂♂, 4 ♀♀ from Townsville, Queensland (Dodd).

121. *Trichoptya nigropunctata* spec. nov., and ab. *pallida* ab. nov., and subsp. *magna* subsp. nov.

*Forewing*: pinkish ochreous dusted with grey and olive; the ground colour rather darker in the ♂; the lines formed of olive scales, slight and diffuse, indented on the folds, the outer lunulate-dentate; a black speck at base of cell and at its end; subterminal line indented on the folds, lunulate-edged internally, the lunules filled up with deep black in the ♀, those on the folds largest, starting from a blackish cloud at apex and ending in another at anal angle; the terminal area beyond it partially or entirely grey; in the ♂ only the black spots on the folds are conspicuous, the others being less visible, and the blackish apical cloud is present; terminal spots black, larger in the ♀; fringe concolorous with ground colour of wing.

*Hindwing*: of ♂ blackish fuscous, of ♀ paler; the costal tuft of ♂ fuscous.

In both sexes the ground colour when worn becomes bone-colour; but good specimens occur with the ground colour pale ochreous and the subterminal black spots well marked = ab. *pallida* ab. nov.

Common throughout the Solomon Islands, the type form occurring in Guadalcanar and Bongainville, while the aberration comes from Rendova, Isabel Island, and Guizo Island; this form also occurs in Kei Island.

A form from Kiriwini, Trobriand Islands, subsp. *magna* subsp. nov., is larger; the subterminal line without any black apical streak, and with three small black spots beyond cell, and one on the submedian fold; the hindwing deep black; of this form only ♂♂ are yet known.

122. *Trichoptya subspurcata* spec. nov.

Resembles *nigropunctata* from the Solomons in size and coloration, but the three lines are not waved and indented on the folds, as in that species, but straight and faintly outcurved across wing; the very slightly darker terminal area is edged above by a distinct broad black apical mark, and by a single black spot on vein 6; a black spot at base and another at end of cell.

Underside of both wings suffused throughout with coarse olive fuscous on an ochreous yellow ground; the hindwing without cell-spot and outer line.

3 ♀♀ from St. Aignan, October 1897 (Meek).

Genus *Sillophora* gen. nov.

Distinguished from *Trichoptya* by the costa of hindwing being folded over beneath to form a flattened pleat, the upperside containing at base of costa a small pouch from which the long hairs of the costal tuft are protruded. Type: *S. bimaculata* spec. nov.

123. *Sillophora bimaculata* spec. nov.

*Forewing*: pale fawn-colour dusted with olive, with a strong violaceous tint except along costa and beyond subterminal line; lines oblique inwards, very indistinct, and only shown by slightly darker scaling; the terminal area olive grey; the subterminal line before it being shown only by a black triangular mark lying across vein 5, and a larger one extending between veins 1 and 3; a black cell-dot and row of black terminal spots; fringe concolorous.

*Hindwing* black; fringe grey; the costal tuft of hairs black, with the tips pale.

Underside of forewing blackish fuscous; the costa and termen dark grey; the inner margin whitish; hindwing black.

Head and thorax like forewings; dorsum blackish, the anal segment paler; abdomen laterally and beneath glossy white; legs brown; palpi with the second segment externally brown, the tips of second segment, the third segment, and the inside white.

Expanse of wings: 32 mm.

1 ♂ from Tawaya, north of Palos Bay, Celebes, August and September 1896 (Doherty).

Genus *Lasionota* gen. nov.

Tongue well developed; frons smooth; palpi upturned, the second segment thickly scaled, the third rather long and slender, pointed; antennae of ♂ simple, filiform; thorax and abdomen stout; the thorax smoothly scaled; the basal segments of dorsum of ♀ with small tufts; basal half of dorsum of ♂ clothed with a matlike covering, concealing a mass of woolly down; legs short and stout; forewing with costa curved at base; apex rectangular; termen curved, hardly oblique; hindwing with vein 5 from close above 4; in the upper half of submedian interval beneath median vein and base of vein 2 an elongated thinly scaled brand.

Type: *L. hypenoides* Moore (*Acantholipes*).

124. *Bocula brunneata* spec. nov.

*Forewing*: ochreous, suffused, except at base, with dark grey-brown; the lines dark, inwardly oblique; the inner edged internally with ochreous, shortly angled below costa; the outer, less oblique, irregularly sinuous, outwardly edged with pale; the median double, dark brown, the outer arm diffuse, touching cell-spot, which is black in a pale spot; termen fuscous, black-brown along upper half of inner edge, which is margined with pale; the edge runs oblique from apex to vein 7, where it forms first a slight inward, then a slight outward angle, is then curved inwards and upwards to vein 6 near outer line, to which it runs parallel to 4, then after a short outward course runs again parallel to outer line to inner margin before anal angle; terminal spots ochreous; fringe dark.

*Hindwing*: fuscous; the fringe fuscous.

Underside greyish fuscous, somewhat glossy; the hindwing paler, with dark cell-spot and outer line.

Head and thorax pale brownish ochreous; the dorsum tinged with grey.

Expanse of wings: 34 mm.

1 ♂ from the Khasia Hills, June 1896.

125. *Bocula mollis* spec. nov.

*Forewing*: uniform pale fawn-colour, unspeckled; the costal edge yellower; lines slightly yellow, otherwise unmarked, except the outer, which is brown-dotted on the veins; terminal area brownish fuscous, slightly darker along inner edge, which after a slight inward bend at vein 8, runs inwards along vein 6 to near outer line, then still inwards and oblique to vein 3, thence outcurved to anal angle; terminal spots fawn-colour; fringe brownish fuscous.

*Hindwing*: pale fuscous; the fringe pale grey, with pale spots at base.

Underside pale ochreous; the disc of forewing grey; costa of both wings freckled with grey-brown; grey cell-spots and curved outer lines.

Head and thorax pale fawn-colour; the dorsum grey-tinged; palpi externally dark brown, the tips ochreous.

Expanse of wings: 34 mm.

1 ♀ from the Khasia Hills, Assam, April 1895.

126. *Bocula undilineata* spec. nov.

*Forewing*: fawn-colour, with brown suffusion in places; the lines dark brown; the costa brownish; subbasal line swelling out into a blotch below median vein; inner line angled below costa, then waved, inwardly oblique, preceded by a line of pale ochreous; median line double, bent outwards below middle, the small brown cell-dot beyond its outer arm; space between inner and median lines filled in with brown; outer line wavy, lunulate below, indented beyond cell and inangled on vein 1; followed by a less distinct parallel arm; terminal area brownish fuscous, darker along inner edge, shaped almost precisely as in *B. marginata* Moore; fringe concolorous.

*Hindwing*: fuscous; fringe fuscous.

Underside of forewing grey-brown; of hindwing ochreous speckled with brown, darker along termen.

Head and thorax ochreous; the dorsum fuscous; palpi externally brownish, the tips ochreous.

Expanse of wings: 30 mm.

1 ♂ from the Khasias, June 1895.

127. *Baputa bipartita* spec. nov.

Differs from the type of the genus, *Baputa dimidiata* Wlk., in the orange colouring being uniformly deeper; the line dividing the orange basal from the black terminal area of forewing is curved from before middle of costa to just beyond middle of inner margin, instead of shortly before anal angle; the hindwing is not entirely black, but has the basal area orange, separated from the dark terminal area by a straight line from middle of costa to middle of abdominal margin; the abdomen, except the last three segments, is orange, like the head and thorax.

The same size as *dimidiata*.

1 ♂, 1 ♀ from Anus, Jobi, April—May 1897 (W. Doherty), type; 1 ♂, 1 ♀ from German New Guinea, October (U. Wahnes); 1 ♂, 2 ♀♀ from the coast near Arfak, New Guinea, and 1 ♂ from Waigien.

The type of *dimidiata* was from New Guinea, and it also occurs in Waigien.

128. *Buzara circumducta* spec. nov.

Differs from *Buzara chrysomela* Wlk. (= *eurychrysa* Meyr. = *gestroi* Oberth.) in having the orange of the hindwing in the ♀ extended as a broad band to anal angle, while in the ♂ the tip of the projecting centre of termen is also broadly orange; the anal segments of the abdomen in both sexes are deeper yellow than in *chrysomela*; in most cases the orange band of forewing is decidedly broader than in the other species.

5 ♂♂, 4 ♀♀ from St. Aignan, September—December 1897, type; 2 ♂♂, 3 ♀♀, November—December 1894; 3 ♀♀ from Kiriwini, Trobriand Islands, March—April 1895; and 1 ♂ from Woodlark Island, March—April 1897 (A. S. Meek).

*B. chrysomela*, which appears to be fairly common in New Guinea, whence it was originally described, is also found in the Kei Islands and Waigiu.

SUBFAMILY DELTOIDINAE.

129. *Bertula fulvistrigalis* spec. nov.

*Forewing*: dark fuscous brown; a fulvous subcostal streak from base to apex; lines white, inwardly oblique, parallel to each other; the inner near base, tinged with fulvous towards costa; the outer at two-thirds, sharply and shortly angled outwards on subcostal vein and there fulvous-tinged; submarginal line indistinct and interrupted above, indented on submedian fold, ochreous tinged with fulvous; veins 3 and 4 white tinged with ochreous; a pale mark on discocellular, fulvous-tinged in upper half, widened below and white; a small fulvous dot in cell beyond inner line; fringe concolorous, with ochreous terminal dots between the veins.

*Hindwing*: with outer and submarginal lines, distinct only below the middle; the outer white, the submarginal ochreous tinged; veins 3, 4 slightly paler.

Underside much speckled with greyish white; the fulvous tints stronger; the spots in cell black, the inner round, the outer vertical, both large; outer line black, dentate; submarginal fulvous; terminal black lunules edged with fulvous.

Head and thorax dark brown; patagia laterally marked with fulvous near base; abdomen brown speckled with greyish, the second segment with a fulvous belt; palpi externally dark brown, internally fulvous, becoming ochreous white towards tips; pectus, venter, and legs brown speckled with ochreous; the front of fore tibiae and all the tarsi fulvous-tinged.

Expanse of wings: 36 mm.

1 ♂ from Mt. Marapok, British North Borneo.

Another ♂, somewhat smaller (32 mm.), from the Sarawak Museum, labelled "Matang Road, March 1914," has the fulvous tints more largely developed, especially the submarginal line, which is complete, and the veins 3, 4 not marked paler, but the discal white mark continued angularly along vein 4 to touch outer line.

## LIST OF SIPHONAPTERA COLLECTED IN EASTERN HUNGARY.

BY DR. K. JORDAN AND THE HON. N. CHARLES ROTHSCCHILD, M.A.

**D**URING July and early August of last year the senior author spent some four weeks at Bihárfüred (= Stina de Vale) in the forest-clad Bihár Mountains of Eastern Hungary. The insect fauna of that district proved to be very poor, there being hardly anything among the Lepidoptera which is worth recording. The high-lying parts are open grazing ground, where large herds of horses, cattle and sheep are encountered, and on these closely-cropped hills hardly any Lepidoptera were seen but *Hepialus fusconebulosus* and some Pyralis. The virgin forest, which covers the mountain-sides nearly without interruption, consists almost exclusively of beech and pine, there being hardly any brush-wood and no oak from about 700 metres upwards. The woods are very damp, springs being found almost everywhere, and the amount of rainfall is very high. Bihárfüred, which has a season of barely ten weeks, is noted for its low average temperature and pure ozonified air, and remained true to its reputation even in the exceptional summer of 1911. While the rest of Europe was being baked and parched, the rainy days were in the majority at Bihárfüred, and the guests often gathered around the stove to warm their benumbed fingers, attempts even being made by enterprising people to light the stove in their bedroom, the attempt generally ending in smoke.

As a rule, trapping for small mammals was only attended to on rainy days, when it was impossible to make excursions to the hunting grounds for Lepidoptera, situated on the slopes towards Belényes between 800 and 1300 m. The number of species obtained was only five, of which four (*Sorex araneus*, *Mus silvaticus*, *Hypodæus glareolus* and *Microtus agrestis*) were quite common in the beech-woods and on the meadow before the bungalows, while *Sorex minutus* appeared to be rare. These mammals frequented the same places and even the same holes—which accounts for the fact that the species of fleas were greatly mixed up on the various hosts.

As among the fleas collected there are several species not previously recorded from Hungary, we deem the captures of sufficient interest to be recorded here.

No bird-fleas were obtained. Bird-life was even poorer at Bihárfüred than the Lepidoptera. Besides two species of *Motacilla*, a solitary couple of swallows, an occasional jay and nuthatch, and some woodpeckers, there was nothing in the hollow where the "Luftkurort" is situated—not even a sparrow. The place is too densely wooded, and the warm season too short, being moreover frequently interrupted by a sudden fall of the thermometer to freezing-point, for harbouring an abundance of insect and bird life, which flourishes more on open, sunny glades than in a pure, bracing atmosphere with a high percentage of ozone.

*Pulex irritans*, *Otenocephalus canis*, and *Ct. felis* do not appear in our list of captures—from which fact, however, it would be hasty to draw conclusions as to their absence.

1. *Ceratophyllus penicilliger* Grube (1852).

6 ♂♂, 7 ♀♀; July 12 and 31, and August 2 and 3, off *Microtus agrestis*.

1 ♀; July 12, off *Hypodaeus glareolus*.

Not previously recorded from Hungary.

The specimens agree with the insect identified by Wagner as *penicilliger*.

*C. pedius* Roths., *Ann. Sci. Nat.* p. 231, no. 21 (1910), based on a single ♂ from Finland, is close to *penicilliger*, but differs in the ninth abdominal sternite of the ♂ bearing only thin hairs proximally to the sinus of the horizontal arm, while in *penicilliger* there is a short spine among the hairs.

2. *Ceratophyllus sciurorum* Schrank (1803).

1 ♀; July 8, off *Microtus agrestis*.

The occurrence on this host is certainly accidental. The presence of squirrels in the woods was testified by the fir-cones on which they had been at work.

3. *Ctenophthalmus agyrtes eurous* subsp. nov.

*Typhlopsylla agyrtes* (Heller), Wagner, *Hor. Soc. Ent. Ross.* xxxi, p. 589, tab. 9, fig. 23 (1898).

3 ♂♂, 11 ♀♀; July 8, 11, 12, 21, and August 2 and 31, off *Microtus agrestis*.

6 ♂♂, 3 ♀♀; July 12 and August 3, off *Hypodaeus glareolus*.

2 ♂♂, 2 ♀♀; July 11 and 18, off *Mus silvaticus*.

1 ♂, 2 ♀♀; July 31 and August 2 and 3, off *Sorex araneus*.

This is a particularly interesting form of *agyrtes*, inasmuch as it goes far to prove that *agyrtes* Heller (1896) and *provincialis* Roths. (1910), and presumably also *barticus* Roths. (1910), are geographical races of one widely distributed species. This species appears to respond more readily to differences in its surroundings than any other European flea. The specimens which we have examined from a number of countries confirm Dr. A. Dampf's view, expressed to us *in litt.*, that *C. agyrtes* would be a profitable subject for the study of the geographical variation of the clasping organs.

The Hungarian examples before us agree very well in the ♂-genitalia with the figure given by J. Wagner of a Russian specimen, and differ markedly from the figure we published of true *agyrtes* in *Noe. Zool.* 1898, tab. 15A, fig. 1, and tab. 17, fig. 12. Wagner and others attributed the differences in the figures to incorrectness of our drawings. Although our figures were not so good as one might have wished them to be, still the most conspicuous characteristics of true *agyrtes* are nevertheless well brought out in them.

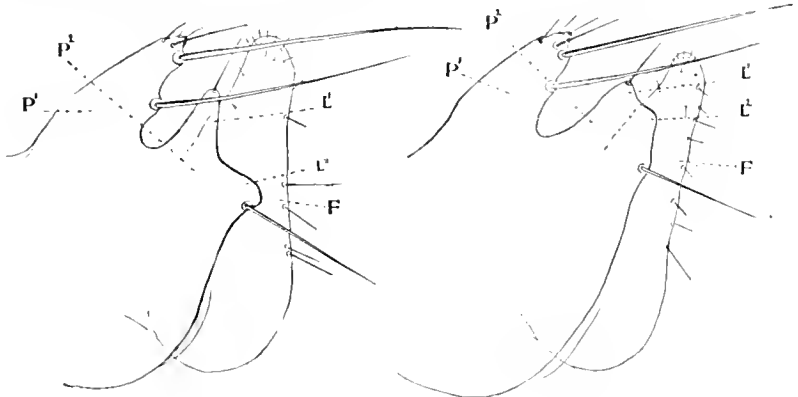
From the specimens we have examined true *agyrtes* appears to occur, roughly speaking, only west of the Elbe, and the present new geographical race in the countries east of the Elbe. We believe that we can distinguish several more (undescribed) geographical forms. We are, however, not yet in a position to elucidate the question satisfactorily. *C. agyrtes eurous* is, from the point of view of the clasping organs of the ♂, intermediate between *C. agyrtes agyrtes* and *C. provincialis*; and, in the ♀, closely approaches *provincialis* in the shape of the seventh abdominal sternite.

♂. The eighth abdominal sternite bears a row of three instead of four bristles, besides a number of bristles more proximally placed. The clasper (text-fig. 1) is divided, as in *C. agyrtes agyrtes*, into a long and conical upper process (P<sup>1</sup>) and shorter and broader lower process (P<sup>2</sup>). This second process is again divided into a conical

upper lobe ( $L^1$ ) and a more or less truncate lower one ( $L^2$ ). For comparison we figure these organs of an Hungarian example and of an *aggrtes* from Borkum (the original locality of *aggrtes*). It will be noticed that in true *aggrtes* (text-fig. 2) the lobe  $L^2$  is obsolescent, while it is well produced in all examples of *curvus*. There is some variability in the length of  $L^1$  and  $L^2$  in *curvus*, but the sinus between them is never so deep as in *provincialis*.

♀. The seventh abdominal sternite is deeply and broadly sinuate ventrally, there being one large lateral lobe, which is broader than in *aggrtes*. There is no narrow lobe beneath this broad one. The eighth tergite has ventrally a row of five bristles as in *aggrtes*, the last one being short, and above this row one long bristle accompanied by one, two, or rarely three small ones.

*C. aggrtes* has not previously been recorded from Hungary.



TEXT-FIG. 1.

TEXT-FIG. 2.

#### 4. *Ctenophthalmus obtusus* spec. nov.

3 ♂♂, 4 ♀♀; July 12 and 21, and August 2, off *Microtus agrestis*.

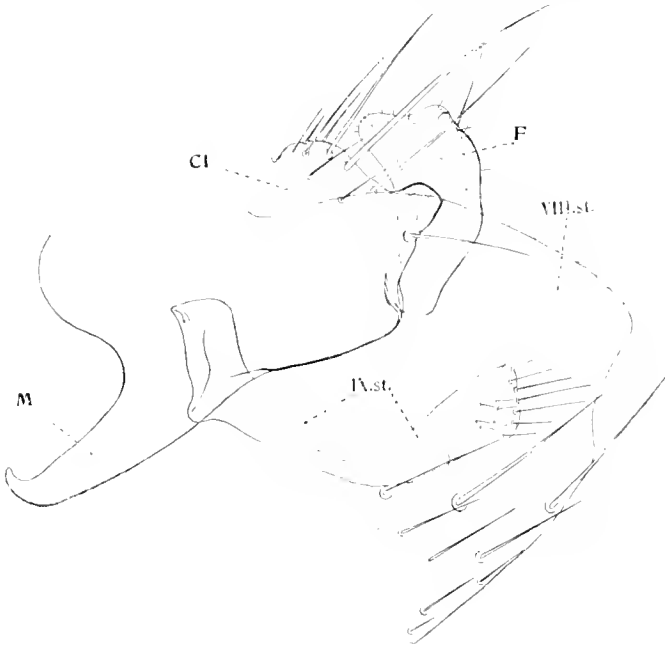
2 ♀♀; July 12 and August 3, off *Hypudaeus glarcolus*.

Very near *C. uncinata* Wagn., *Hor. Soc. Ent. Ross.* xxxi, p. 590 tab. 9, fig. 24, tab. 10, fig. 29 (1898), described from 2 ♂♂ and 1 ♀ found on *Putorius vulgaris* at New Alexandria. The occurrence of *uncinata* on *Putorius* we believe to be accidental, the true host probably being *Microtus*, as in the case of *obtusus*. As we have no example of *uncinata* in the collection, we rely on Wagner's figures, which represent the claspers of the ♂ and the head, and therefore restrict our description to the modified abdominal segments, whose structure affords the best and perhaps the only distinguishing characters. The chaetotaxy of the body and legs in *uncinata* according to Wagner is the same as in *C. assimilis* Tasch. (1889), but differs appreciably in *obtusus*, especially in the ♀.

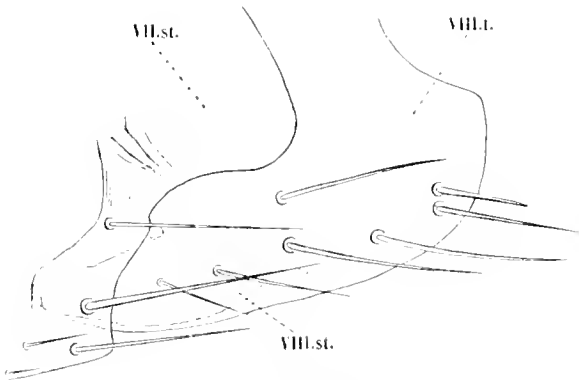
♂. The clasper ( $C_1$ ) agrees perfectly with the figure given by Wagner of that sclerite of *C. uncinata*, the nose-like process varying a little individually, being sometimes more rounded, sometimes more pointed. The movable process ( $F$ ) is more than twice as long as it is broad in *obtusus*, whereas it is only half as long again as it is broad in Wagner's figure of *uncinata*; its proximal margin is incurved, not straight, the upper margin also being distinctly excised. The upper distal corner, which is produced into a hook in *uncinata*, projects very little in the new species. But there is on the inner surface of  $F$  just below the corner a groove



above which F is somewhat incrassate, this portion of F corresponding to and somewhat resembling the hook of *uncinata*. The upper edge of F is distinctly incurved, not straight as in *uncinata*. The ninth sternite (ix. st.) is very much the same as in *C. assimilis*. The eighth tergite (viii. t.) bears on each side a



TEXT-FIG. 3.



TEXT-FIG. 4.

postmedian row of three bristles, and proximally to this row five or six additional bristles.

♀. The ♀ of *uncinata* is said by Wagner to agree with *assimilis*, no distinctions between the ♀♀ of the two species being mentioned. The ♀ of *obtusus*, on the other hand, is distinguished from *assimilis* by the smaller number of bristles on the abdominal segments ii. to vii. The basal sternite bears only a pair of ventral bristles, no lateral bristle, and the numbers on the sternites of segments iii. to vii.

are on the two sides together: iii. 5, 9; iv. 7-9, 10; v. 6-11, 8 or 9; vi. 9-11, 8; vii. 3-7, 7 or 8; the second figures referring in each case to the postmedian row of bristles, and the first numbers to the additional bristles placed in front of this row. The numbers are in *assimilis* on sternites iv. to vii. as follows: iv. 9-14, 11 or 12; v. 13-16, 11 or 12; vi. 15, 10 or 11; vii. 12 or 13, 12 or 13. The eighth tergite (text-fig. 4, viii. t.) bears in *obtusus* a row of five bristles along the ventral margin, a sixth bristle, which is short and thick, being placed above the last as in *assimilis*, but the row in *assimilis* contains only four bristles. Above the row there is in both species a single long bristle accompanied in *obtusus* by 0 to 2 bristles and in *assimilis* by 4 to 6. The outline of the seventh sternite is nearly the same in the two species. The apical margin, however, is in *assimilis* rather strongly convex below the large lobe, or even produced into a short lobe recalling the narrow lobe of *C. agyrtus agyrtus*, whereas in *obtusus* (text-fig. 4) the margin is only very faintly convex. The oviduct is strongly chitinised near its orifice.

##### 5. *Ctenophthalmus pentacanthus* Roths. (1897).

1 ♀; August 3, off *Hypudaeus glareolus*.  
Not previously recorded from Hungary.

##### *Doratopsylla* gen. nov.

As A. Dampf\* has already pointed out, the species described as *Typhlopsylla dasyncnemus* Roths. (1897), and now either placed into *Ctenophthalmus* or *Palaeopsylla*, does not agree with either of them and requires a new genus for its reception. The rostrum consists of only four segments instead of five, and the fifth segment of all the tarsi bears four lateral pairs of bristles and a ventral proximal pair as in *Palaeopsylla*.

There are also tropical species under *Ctenophthalmus* or *Palaeopsylla* which have the rostrum four-jointed—for instance, *intermedia* Wagner (1900)—which, however, do not concern us here.

##### 6. *Doratopsylla dasyncnemus* Roths. (1897).

3 ♂♂; July 12, off *Sorex araneus*.  
3 ♂♂, 2 ♀♀; August 2, off *Sorex araneus*.  
1 ♀; August 3, off *Sorex araneus*.  
Not previously recorded from Hungary.

##### 7. *Palaeopsylla sorecis* Dale (1878).

1 ♂; July 12, off *Sorex araneus*.  
3 ♀♀; July 31, off *Sorex araneus*.  
1 ♀; August 2, off *Sorex araneus*.  
1 ♂, 1 ♀; August 3, off *Sorex araneus*.  
Not previously recorded from Hungary.

##### 8. *Hystrichopsylla talpae* Curtis (1826).

1 ♂, 1 ♀; July 12 and August 2, off *Hypudaeus glareolus*.  
4 ♂♂, 3 ♀♀; July 12, 21 and 31, August 2, off *Microtus agrestis*.

\* Zool. Jahrb., Suppl. 12, p. 632 (1910).

LIST OF THE *ANTHRIBIDÆ* IN THE CONGO MUSEUM  
AT TERVUEREN.

BY DR. K. JORDAN.

THE specimens enumerated came from the Belgian Congo. The types of the few new forms are in the Musée du Congo Belge, if not stated otherwise. Besides the species mentioned below there are about a dozen additional forms in the collection represented by single specimens. These are mostly undescribed, but for various reasons I consider it for the present inopportune to publish descriptions of them. Moreover, a number of species have been added to the collection from our own material, so that the Congo Museum now contains the greater proportion of the *Anthribidæ* known from the Congo basin.

1. *Mecocerus mniszечи* Thoms. (1858).

The commonest species in the Congo region. A series of specimens in the collection from : Lukombe (A. Koller) ; Léo-Stanleyville (Weyns) ; Kisantu (R. P. Goossens) ; Kasai (Coart) ; Kabambare (Delbaise) ; Manyema (Dupuis) ; Léopoldville ; Galli-Koko, Kasai (R. Carlier) ; Uclé (Léret) ; Sassa (Colmant).

2. *Mecocerus rhombeus* Qued. (1886).

This conspicuously marked species (*i.e.* conspicuous in a collection) is represented by a series from : Sassa (Colmant) ; Mayumbe (Deleval) ; Lukombe (A. Koller) ; Lukenge, Kasai (Fontainas) ; Dinia (A. Koller) ; Katanga (Lemaire) ; Léopoldville.

3. *Mecocerus oculatus* Jord. (1895).

3 ♂♂, 2 ♀♀ ; Sassa (Colmant).

The species is much rarer in collections than the previous ones.

4. *Phloiophilus sulcifrons* Fahrs. (1839).

The sexes are very similar ; but the ♂♂ are easily recognised by bearing, anteriorly on the metasternum, a round median impression which is filled in with short hair, and by the midtibia being armed with a tooth at the apex.

2 ♂♂, 3 ♀♀ ; Sassa (Colmant).

2 ♂♂ ; Lukombe (A. Koller).

1 ♂ ; Galli-Koko, Kasai (R. Carlier).

5. *Apatenia annulipes* Jord. (1894).

1 ♂, 1 ♀ ; Sassa (Colmant).

These are the only specimens I have seen beside the type.

6. *Chirotenon adustum* Labr. and Imh. (1842).

A series from : Sassa (Colmant) ; Lukombe (A. Koller) ; Galli-Koko, Kasai (R. Carlier) ; Lukenge, Kasai (Cabra).

7. *Phloeotragus hottentottus imhoffi* Boh. (1845).

This is the West African representative of *hottentottus* Schönh. (1839), which is found on the eastern side of the Continent; *albicans* Fahr., from Madagascar, is a very close ally and perhaps also not specifically distinct.

1 ♂, 1 ♀ ; Sassa.

2 ♂♂, 2 ♀♀ ; Lukombe, October (A. Koller).

1 ♀ ; Katanga (Lemaire).

1 ♀ ; Dima, September (A. Koller).

8. *Phloeotragus heros* F. (1801).

A common species, of which the collection contains numerous specimens from : Léopoldville ; Banzyville ; Manyema (Dupuis) ; Tanganika (Hecq) ; Sassa ; Lukombe (A. Koller) ; Katanga ; Mayumbe (C'abra).

Many specimens have a rather strong greenish tint, resembling to some extent the next species. *P. heros* and *poliopras*, however, can easily be distinguished by the following differences in structure :

a. *heros* : The upper edges of the right and left antennal grooves are nearly parallel. The antenna of the ♂ bears on the inner side small hairs, not short and stumpy spines; and the tenth segment in the ♀ is broader than long. The elytra are deeply emarginate together at the base; the basal edge is strongly elevate and this raised margin quite distinct around the shoulder-angles. The intercoxal process of the mesosternum is broad as far as the middle and then narrows strongly to the apex.

b. *poliopras* : The upper edges of the antennal grooves are strongly divergent. The antenna of the ♂ bears minute sensory cones instead of hairs on the inner surface, and the tenth segment of the ♀ is longer than broad, the seventh and eighth being somewhat shorter than in the ♀ of *heros*. The prothorax is shorter than in *heros* and the elytra less coarsely punctured. The base of the elytra is less emarginate and the raised margin much less elevate, being obsolete at the shoulder-angle; the shoulders as well as the subbasal dorsal callosity are more raised than in *heros*, and the mesosternal process is much narrower.

9. *Phloeotragus poliopras* Jord. (1910).

3 ♂♂ ; Sassa (Colmant).

3 ♂♂ ; Lukombe (A. Koller).

1 ♂ ; Lukenge (Fontainas).

10. *Phloeotragus prasinus* Duv. (1892).

One of the rarer species, which is easily recognised by the elytra bearing a black patch at the centre of the lateral margin and a prominent tubercle before the apex.

2 ♂♂ ; Sassa (Colmant).

One of the two specimens is entirely dirty clay-colour on the upper surface instead of green.

11. *Phloeotragus gigas* F. (1801).

3 ♂♂, 3 ♀♀ ; Lukombe (A. Koller).

1 ♂ ; Sassa (Colmant).

12. *Decataphanes punctipennis* Jord. (1895).

1 ♀; Sassa (Colmant).

The specimen, which measures only 12 mm., is the second which I have seen of this species. It agrees with the name-type in the dorsal carina being nearly quite straight.

13. *Decataphanes posticatus* Jord. (1903).

2 ♂♂; Sassa (Colmant).

14. *Gnoticarina cristulata* Jord. (1894).

1 ♂; Sassa (Colmant).

15. *Deuterochrates cavicollis* Hour. (1879).

1 ♂; Sassa (Colmant).

1 ♂; Léopoldville.

1 ♂; Mayumbe (Cabra).

16. *Deuterochrates canescens* Qued. (1886).

2 ♂♂, 1 ♀; Sassa (Colmant).

1 ♀; Eastern province of Congo Free State (Weyns).

1 ♀; Galli-Koko, Kasai (R. Carlier).

17. *Deuterochrates nigropictus* Qued. (1886).

1 ♂; Léopoldville.

1 ♂; Sassa (Colmant).

1 ♀; Galli-Koko, Kasai (R. Carlier).

18. *Deuterochrates armatus* spec. nov.

♂. Oculis subrotundis, antice levissime emarginatis. Carinae prothoracicalis angulo recto fere acuto. Antennarum (♂) articulo 1<sup>o</sup> sine impressione rotunda velveta, 10<sup>o</sup> brevi. Tibia media (♂) in dentem acutam producta.

1 ♂; Manyema (R. Grauer) in Mus. Tring, *type*.

5 ♂♂; Sassa (R. Colmant).

Agrees in colour closely with the form known as *D. canescens* Qued. (1886). Rather narrower, the prothorax especially being longer, but not so long as in *D. cavicollis* Har. (1879). At once recognised by the eye, pronotal carina, the antenna and multibia, at least in the ♂.

The other species of *Deuterochrates* have the eye very distinctly sinuate, while in the new one the sinus is barely indicated. The first segment of the antenna bears in all the other *Deuterochrates* in the ♂ at the apex a round pit filled in with a long pubescence, and is devoid of this organ in *armatus*. The tenth antennal segment is less than half the length of the eleventh. With the exception of *armatus* the lateral angle of the pronotal carina is obtuse in *Deuterochrates* (♂♀), and the short longitudinal basal carina is so oblique as to divide more or less evenly the convex angle formed by the dorsal and lateral carinae. In *armatus*, on the other hand, the carinae meet at right angles and the short longitudinal basal carina is horizontal, having the same or very nearly the same direction as the main lateral

carina, a character which may be expected to hold good also in the ♀ (as yet unknown). The sharp tooth which we find at the apex of the midtibia in the ♂ of *armatus* is not met with in any other known species of *Deuteroerates*.

The species varies considerably in size, like its congeners. In none of the six specimens are the antennae more than twice the length of the body inclusive of the head.

19. **Anacerastes geometricus** Jord. (1894).

1 ♂; Lukenge, Kasai (Fontainas).

20. **Anacerastes geometricus** ab. *cinerascens* Jord. (1894).

1 ♀; Mayumbe (Cabra).

21. **Anacerastes scriptus** Jord. (1910).

2 ♂♂, 1 ♀; Sassa (Colmant).

One of the ♂♂ is entirely pale yellow, having apparently been taken from its pupal berth.

22. **Epicerastes undulatus** Qued. (1886).

1 ♂, 1 ♀; Sassa (Colmant).

23. **Xylinades sinuatocollis** Qued. (1886).

1 ♀; Sassa (Colmant).

24. **Xylinades alternans** Kolbe (1895).

2 ♀♀; Lukombe (A. Koller).

25. **Syntrophoderes guineensis** Kolbe (1895).

A series from Lukombe (A. Koller); Kisantu (R. P. Goossens); Galli-Koko, Kasai.

26. **Aneurhinus pantherinus** Fabr. and Imh. (1834).

3 ♂♂, 1 ♀; Lukombe (A. Koller).

2 ♂♂; Sassa (Colmant).

27. **Aneurhinus leucomelas** Qued. (1886).

2 ♂♂, 1 ♀; Sassa (Colmant).

28. **Phloeobius podicalis** Kolbe (1894).

Originally described from German East Africa.

3 ♂♂; Sassa (Colmant).

29. **Phloeobius retusus** Fabr. and Imh. (1842).

1 ♂; Sassa (Colmant).

1 ♀; Dima (A. Koller).

30. **Phloeobius affinis** Kolbe (1895).

4 ♂♂, 1 ♀; Sassa (Colmant).

31. *Phloeobius catenatus* Kolbe (1895).

1 ♂ ; Léopoldville.

2 ♂♂, 3 ♀♀ ; Sassa (Colmant).

32. *Phloeobius humilis* Kolbe (1895).

1 ♂, 1 ♀ ; Lukombe (A. Koller).

33. *Phloeobius pustulosus* Gerst. (1871).

1 ♀ ; Sassa (Colmant).

34. *Gynandrocerus antennalis* Lacord. (1866).

2 ♂♂, 1 ♀ ; Sassa (Colmant).

2 ♂♂ ; Lukenge, Kasai (Fontainas).

1 ♂ ; Dima (A. Koller).

35. *Gynandrocerus praecox* Kolbe (1894).

1 ♂ ; Sassa (Colmant).

37. *Litotropis afer* spec. nov.

♂♀ ; Niger, sparsim griseo pubescens ; prothorace macula apicali mediana fulva notata ; elytris in interspatiis 3<sup>o</sup> et 5<sup>o</sup> nigro-fasciculatis ; antennis rufescentibus ; pygideo fulvo. Long. (cap. excl.) 4·5—5 mm.

1 ♂, 2 ♀♀ ; Lukombe, October 1905 (A. Koller).

The colour of dark slate, the grey pubescence being much less in evidence on the upper side than on the under. The antennae are rufescent, with a darker club ; the tarsi and, to a lesser degree, also the tibiae have likewise a reddish tint. The fulvons median spot at the apex of the pronotum varies in size, and in one of the ♀♀ there is a fulvescent spot before the apex of each elytrum. All three specimens have a fulvons pygidium. *L. afer* comes nearest in size and shape to *L. providus* Fahr. (1839), but the rostrum is shorter, being apically broader than it is long. There is a double tuft of black pubescence on the basal callosity of the elytrum, and the third and fifth interspaces bear, moreover, four or five smaller tufts, the posterior ones being especially small.

---

NEW *GEOMETRIDAE* IN THE TRING MUSEUM FROM  
NEW GUINEA.

By W. WARREN, M.A., F.E.S.

SUBFAMILY ORTHOSTIXINAE.

1. *Ozola violacea* spec. nov.

*Forewing* : yellow ochreous, the ground colour almost entirely hidden by reddish and violet-brown suffusion; costal edge yellow dotted with black; the costal streak filled with dense reddish striae; inner line oblique outwards from one-third of costa to middle of cell, blackish, thence nearly vertical or slightly curved inwards and ill-defined to middle of inner margin, the basal area within it red, being almost covered with confluent vinous striae and suffusion; outer line from two-thirds of costa, dark and sinuous, to inner margin a little beyond inner line, the excurved portion between costa and vein 2 filled up with deep red; the central area hyaline white with coarse red granular speckling and with a red triangle at top below subcostal vein; sub-terminal line formed of black blotches between the veins, often indistinct; area beyond outer line vinous red-brown glossed with violet, containing a small yellow red-speckled patch on termen from vein 4 to 2 and a slighter patch at apex; terminal dark dots between veins; fringe reddish except beyond the yellow areas.

*Hindwing* : with the whole basal half yellowish hyaline with partially confluent red speckling; the outer half as in forewing, but without any yellow patches.

Underside similar to upper: the outer lines blacker, distinctly crenulate.

Head, thorax, and abdomen red speckled with yellow, the dorsum more solidly red; venter, pectus, and legs variegated red and yellow.

The ♀ is less strongly suffused with red, the pale ground colour being more in evidence.

Expanse of wings: 35 mm.

A series from near Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October and December 1910 (A. S. Meek).

SUBFAMILY GEOMETRINAE.

2. *Agathiopsis maculata angustifascia* subsp. nov. and *unanimis* subsp. nov.

In *Nor. Zool.* iii, p. 286 I described this species from Fergusson Island; in it the ♂ differs from the ♀ in having the marginal dark border narrower and darker, with straighter inner margin, than in that sex; of the four from the Solomon Islands (Bougainville), subsp. *angustifascia* has this border still narrower and more concise, the inner edge white; on the other hand, of four examples from Ninay Valley, Central Arfak Mts., Dutch New Guinea, subsp. *unanimis*, the 2 ♂♂ are only distinguishable from the ♀♀ by the round green terminal blotch between veins 3 and 4, the border in both sexes being of the same colour and shape as in typical ♀♀.

3. *Anisogamia absona* Warr. ab. *exalbata* nov.

Differs from the type in having all the white spaces exaggerated; in the forewings the spots forming the outer line and the inner of the two submarginal lines



confluent into uneven bands, partly joined along submedian fold with a short inner band below the cell-spot; the outer bands broad also in the hindwings; the patagia white instead of green; the dark blotch at apex of hindwings hardly visible above, though equally strong below. 1 ♂ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., November 1908 to January 1909, along with 8 typical ♂♂ and 1 ♀. Both sexes are slightly different from the Australian *fasciatus* ♂ Lucas = *dentata* ♀ Warr. In the ♂ the hindtibiae are grooved, with an expansible pencil of long dark hairs concealed therein.

#### 4. *Anisogamia albigitata* spec. nov.

*Forewing*: white; the basal three-fourths traversed by numerous irregular green vermiculations thickened into blotches between veins 2 and 3 and in submedian interval; a brown subcostal spot at one-fourth and a dark green spot at each end of discocellular; the limit of basal area and the inner edge of central fascia can be imagined only; the outer edge of the latter is marked by a lunulate-dentate green line, followed by a dentate white band; terminal area dark green, containing two rows of white lunules, separated by the green veins; those of the inner series more elongate; marginal line deep green interrupted by large white dots at the vein ends; fringe green, with the tips grey-brown dotted with white beyond the veins; costa with a few earth-brown speckles at base, thickened at middle, and confluent towards apex, which is brown with white dots.

*Hindwing*: similar, but the white spaces and the green striae larger and clearer, more regular.

Underside pearly white, the green markings of upperside showing by transference only, except above median in forewing, where the discocellular, an outer, and subterminal line are marked in green below costa, the subterminal by four green lunules; the costal streak, the terminal lunules below apex and the fringe tips fawn-colour.

Head, thorax, and abdomen green powdered with white, the last with dorsal and subdorsal rows of white spots; pectus, venter, and legs white; forelegs tinged with fawn-colour; antennae with the shaft white and the short rigid pectinations dark fawn-colour.

Expanse of wings: 27 mm.

1 ♂ from near Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft.; October to December 1910 (A. S. Meek).

#### 5. *Anisogamia fragmentata* Warr. ab. *major* ab. nov.

Like so many other New Guinea insects, this species occurs of two sizes; of 5 ♂♂ and 2 ♀♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 1 ♂ only agrees in size with the type specimens from Biagi; the rest expand 36 mm. and the ♀♀ 38 mm. These examples—which may be separated as ab. *major*—agree exactly with the type, but the white markings are clearer and more distinct; the ♀♀, as usual, are quite different. The pale costal streak is thickly dusted with fuscous atoms; the outer line from two-thirds of costa to two-thirds of inner margin is white inwardly edged with lilac grey, more broadly above vein 6; between veins 6 and 5 the line forms a small sinus outwards and is abruptly broken off at vein 3; the terminal area beyond is greyish white, containing a green blotch beyond the sinus, below which the white line is outwardly as well as inwardly edged with lilac grey;

between veins 3 and 4 the grey termen is quite narrow, ending in a rounded white blotch at two-thirds of inner margin; veins across border dark; marginal lunules blackish; fringe grey; in the hindwing the terminal border is narrower at costa and very narrow before tornus; on middle of inner margin is a narrow grey streak expanding towards base.

6. *Anisogamia reducta* spec. nov.

♂. *Forewing*: pale semitransparent green; the veins deep green with pale dots; costa deep brown dotted with white; basal area crossed by three or four interrupted pale lines, most distinct on inner margin; at one-third an obscure cloudy pale curved band; two submarginal rows of pale spots between the veins, those on each side of vein 4 swollen; a row of pale dots close before termen; terminal line crenulate, dark green, with pale dots at the vein ends; fringe grey-green.

*Hindwing*: Similar, without the pale band; a brownish blotch at apex between veins 7 and 8.

Underside iridescent pale green, with the white marks showing through; costa of forewing yellowish, with slight fuscous markings.

Head, thorax, and abdomen dark green, mixed with whitish scaling; lower part of face and outside of palpi greenish white; dorsal segments of abdomen with white spots at their hinder edge; segments 5 and 6 dorsally dark fuscous.

♀. *Forewing* with the pale band ending in a brown spot on inner margin; termen dark greenish fuscous, its inner edge projecting roundly on vein 5, and followed by a deeper shade; terminal line crenulate, blackish; fringe fuscous, with pale dots at base between veins.

*Hindwing*: the same.

Underside with the terminal band whitish, edged inwardly by a narrow dark band indented in middle in both wings; costa of forewing yellowish. Dorsum dark fuscous, mixed with a few greenish scales; anal tuft whitish.

Expanse of wings: ♂ 25 mm.; ♀ 25-28 mm.

1 ♂, 4 ♀♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909.

The ♀ resembles that of *dentata* Warr., but is smaller, and the dark border is without any reddish tinge.

7. *Anisogamia semilineata* spec. nov.

*Forewing*: deep green, very slightly transparent; costa dark brown with white dots and a quadrate white spot at one-third; a white dot at base of each fold and a larger one beyond the lower one; a narrow white spot across each fold, hardly forming a line; inner line starting from the white costal spot forms a bracket-shaped white mark across cell, below middle marked by two white dots, on median vein and vein 1, and two more, on submedian fold and inner margin; outer line at four-fifths, lunulate-dentate, but very obscure, the teeth forming white dots on veins, and the lunules white dots between them, starting from vein 6; two submarginal rows of white spots, the inner somewhat elongated vertically, the outer horizontally; a fine dark green crenulate terminal line, with white dots at the vein ends; fringe pale green tipped with white.

*Hindwing*: with two white spots at base and a white cell-spot on upper half of discocellular, preceded by two large white spots in cell; three white spots below

submedian fold, the first joined by a bar to median vein; a white spot at base of veins 2 and 3; outer line zigzag, white, interrupted in cell and marked by a white spot on vein 5 nearer base; the rest as in forewing.

Underside very pale whitish green, the white marks of upperside showing through; costa of forewing yellow, with a few brown specklings; the outer line and inner of the two submarginal lines marked at costa by darker green and fuscous; three dark terminal dots below apex.

Head, thorax, and dorsum dark green; lower part of face white; palpi pale pinkish brown; three rows of white dorsal spots on abdomen; the middle row on the hinder edge of the segments, the lateral rows on their middle; pectus, venter, and legs white; the forelegs in front dark brown, with the joints white.

Expanse of wings: 26 mm.

1 ♂ from the Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., November 1908 to January 1909.

#### 8. *Anisogamia veniplaga* Warr.

In *Nor. Zool.* xiv. p. 130 (1907), the ♂ only of this species was available for description: I am now able to add that of the ♀, which differs considerably. The costal streak is broader, white densely freckled with brown, without any reddish tint; instead of the two terminal blotches at apex and tornus, both wings have a broad bone-coloured terminal border, edged inwardly by a white line consisting of large lunules, starting from two-thirds of costa and ending at three-fourths of inner margin, twice as broad above vein 4 as below it, the line being dentate outwards at veins 6, 4, 3, and 2; towards apex of forewing the border is faintly tinged with flesh-colour, and is traversed by a darker cloud beyond the white limiting line, increasing in depth below middle of forewing and much more developed throughout the hindwing, without any reddish tint; the veins across the pale border are dotted with dark, and the marginal lunules black; the fringe bone-colour, varied with grey; below the costa of forewing on each side of vein 7 is an elongated patch of green. On the underside of forewing the black spot at anal angle is replaced by a broad black shade reaching costa, running in the main along the inner edge of the pale outer border.

Expanse of wings: 39 mm.

1 ♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909, along with 2 ♂♂ from the same locality, somewhat smaller than the type ♂—32 mm. instead of 37 mm.

#### 9. *Anisogamia viridistriga* spec. nov.

*Forewing*: whitish, above the middle suffused in parts with green and traversed by many thick wavy dark green lines, all plainest below middle; the basal and subbasal starting from blackish costal spots, and developing into waved green lines below subcostal vein; the edges of the central fascia dark green, starting from black spots on costa, the inner curved from costa, then vertical, preceded by a distinct pale band of ground colour; the outer strongly dentate on veins, the two edges twice as near each other on inner margin as on costa, containing two somewhat interrupted dark green lines between them below middle and two more in outer half of cell; the pale band following the fascia not so plain as that preceding it; a pale green patch at apex, becoming a narrow green band below middle, the upper part to vein 6

traversed by three white lunules representing the subterminal line : a row of broad green lunules along termen, preceded, except beyond cell, by larger white lunules, separated by the green veins ; fringe pale green ; costa between the black spots white, at middle and beyond marked with black dots.

*Hindwing* : with the terminal area as in forewing ; the rest of the wing crossed by numerous waved and partially interrupted pale and dark green striae, the pale ground colour slightly discoloured with pinkish ochreous.

Underside of forewing greenish white, crossed by three reddish and dark fuscous bands, the inner slight, the middle and outer forked and swollen above median and forming thick dentate lines below : costa dotted with dark ; hindwing with two black fasciae, the median broad at costa, thinning out to inner margin, the outer submarginal projecting inwards at middle ; both with their outer edges dentate ; marginal lunules black ; fringe of both wings pale green.

Face deep green, white below ; shoulders, patagia, and base of dorsum green, the patagia whitish at base ; abdomen (discoloured) ; palpi pale brown ; vertex broadly white, with a dark green line behind.

Expanse of wings : 30 mm.

A fair series from near the Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

#### Genus *Blechromopsis* gen. nov.

Superficially much resembling the S. American genus *Blechroma* Moeschl., from which it is distinguished by its somewhat thicker scaling, and the longer and less regular pectinations of the antennae of the ♂ ; the palpi obliquely porrect upwards, the terminal segment longer in ♀ ; hindwing with a slight tooth at vein 4 ; veins 6, 7 hardly stalked : the lines accompanied by brown scaling, as in *Anisogamia muscosa* Warr., which has the termen of both wings strongly crenulate.

Type *B. nubifera* spec. nov.

The species described by me as *Agathia punctata* (Nov. Zool. vi. p. 327, 1899) from Dammer Island will come into this genus.

#### 10. *Blechromopsis costipicta* spec. nov.

*Forewing* : grass-green ; the costa bright pale ochreous with dense short chocolate-brown dots ; a small brown spot at base of cell, and a slighter one on subcostal, representing the subbasal line ; inner line chocolate brown, deeply lunulate-dentate, the inward teeth marked with brown spots on the veins, the lunules filled in with pink ; a thick brown bar across discocellular, followed by a few brown striae ; outer line deeply lunulate-dentate, the lunules partly interrupted, the teeth marked by brown dots, preceded below middle by pale dashes ; fringe green ; no terminal spots or mottling of fringe.

*Hindwing* : with inner line waved, violet brown ; cell-spot minute ; outer line deeply lunulate-dentate, only the teeth marked reddish, preceded by pale dashes, the lunule between 4 and 5 pinkish ; both lines ending in stronger brown spots on inner margin ; a minute dark dot in the tooth at vein 4 ; fringe green.

Underside whitish green ; costa of forewing yellow with numerous strong brown striae ; below it the costal half of wing is deeper green.

Face ochreous, becoming violet brown above ; palpi dark brown externally, ochreous internally ; fillet brown ; antennal shaft ochreous mottled with brown ;

vertex, thorax, and dorsum green, the last with white segmental spots; underside and legs white, the forelegs fuscous in front.

Expanse of wings: 32 mm.

1 ♂ from near the Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

The forewings are narrow, as in *B. megaspila* from the same locality.

#### 11. *Blechromopsis dissimilis* spec. nov.

Resembles *B. costipicta*, but deeper green; the costa green with short brown striae; the lines the same, but more violet; the lunules of the inner line filled in with whitish; the cell-spot a small dark spot; hindwing as in *costipicta*, with no dot in the tooth at vein 4.

Underside with the costal edge very shortly striated to just beyond middle.

Face green instead of ochreous.

Expanse of wings: 34 mm.

1 ♂ from Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., August 1910 (A. S. Meek).

The wings are much broader, the termen of forewing nearly straight, and the anal angle well marked, agreeing herein with *B. nubifera*.

#### 12. *Blechromopsis nubifera* spec. nov.

*Forewing*: grass green; the costa yellow, with numerous chocolate brown striae; a brown spot at base of cell; some brown striae on subcostal vein represent the subbasal line; inner line from one-fourth of costa to one-third of inner margin, starting from a brown costal spot, lunulate-dentate, the teeth on the veins long and pointing inwards, the lunules, which are deep, outwards; brown inwardly whitish-edged, the lunules preceded by grey-brown shading, the semi-lunule below vein 1 faint and pinkish; cell-spot black, lying in a cloud of grey-brown striae; outer line from three-fourths of costa to two-thirds of inner margin, strongly lunulate-dentate, the white teeth on the veins tipped with green below vein 4 and with brown above it, the lunules thickly brown from costa to vein 5, that between 4 and 5 pink-tinged; the teeth on veins 8, 7, 6 brown and confluent; minute brown dots at the vein ends followed by pink spots across the green fringe.

*Hindwing*: inner line marked by pink spots on each fold; cell-spot pink; outer line strongly lunulate-dentate, the teeth white tipped with dark green, the lunule between 4 and 5 marked with pink; brown terminal spot in the tooth at vein 4 large; an elongate narrow brown blotch at anal angle, below a pink spot on inner margin at end of outer line.

Underside pale green; the costal half of forewing bright green; the costal edge yellow with short brown striae; the fringes spotted with pink beyond the dark terminal dots.

Palpi externally, face, vertex, thorax, and dorsum deep green; fillet dark brown; antennal shaft ochreous dotted with brown, the pectinations in the ♂ mottled brown and ochreous; dorsum with white segmental dots in the ♂; underside and legs white, the forelegs tinged in front with fuscous brown.

Expanse of wings: ♂ 42 mm.; ♀ 44 mm.

The type ♂ from the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., August 1910, the ♀ from near the Oetakwa River, up to 3500 ft., October to December 1910 (A. S. Meek).

13. *Blechromopsis megaspila* spec. nov.

*Forewing*: bluer green than in *nubifera*; the costal edge green striated with brown; a large brown spot at base of costa; a small one on costa and subcostal vein, indicating subbasal line; inner line as in *nubifera*, but forming a brown blotch from costa to median vein, then interrupted, the teeth marked brown on the veins, and the tip of the upper lunule and that on inner margin brown; a brown cell-spot and a spot above it at rise of vein 6; outer line strongly lunulate-dentate, the lunules marked with brown and edged with white, the teeth forming dark brown spots, the lunules sometimes faint; the upper part of line to vein 6 forming an elongate brown blotch between 6 and 7, and the teeth another between 7 and 8; terminal dark brown spots large, those on veins 1 and 4 forming round blotches; the fringe green chequered with pink beyond veins.

*Hindwing*: with inner line faint, green; cell-spot red-brown; teeth of outer line marked by small brown dots; the lunules unmarked except sometimes on each fold; a brown pink-tinged spot on inner margin at end of the line; the spots at end of veins 1 and 4 large as in forewing, that at vein 7 elongate.

Underside pale green; the costal edge of forewing yellowish, dotted with brown; traces of the brown markings of upperside below costa only.

Face, vertex, thorax, and abdomen deep green; palpi externally brown, internally whitish; fillet brown; antennal shaft ochreous, dotted with brown, the pectinations mottled in the ♂; base of patagia with a large brown spot; basal segments of dorsum with large brown spots; venter, pectus, and legs white; the forelegs fuscous brown in front.

Expanse of wings: ♂ 38 mm.; ♀ 43 mm.

Several specimens from near the Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

The markings appear to be stronger in the ♀.

14. *Chlorochroma angulilinea* spec. nov.

*Forewing*: bright deep green; the terminal intervals marked with rows of yellow dots confluent into streaks; costa deep yellow, underlined with deep red scales; the lines yellow; the inner strongly angled outwards on median vein at the rise of vein 2; the outer oblique and straight from two-thirds of inner margin to four-fifths of costa; a subbasal line oblique from base of inner margin to median vein; a yellow line on discocellular; fringe yellow beyond a fine red terminal line.

*Hindwing*: with inner line straight from below costa near base to one-third of inner margin; outer line from two-thirds of costa to two-thirds of inner margin; strongly but bluntly angled outwards below vein 4; the line on discocellular sickle-shaped; terminal red line thick; yellow streaks between veins towards termen as in forewing.

Underside pale green, with the pale lines showing through; costa of forewing yellow.

Face, thorax, and abdomen deep green; a yellow dorsal streak starting from thorax; palpi green above, white below; fillet and antennal shaft yellow; pectus and venter white; legs tinged with green.

Expanse of wings: 37 mm.

1 ♂ from near Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

Forewings narrower with apex more prominent.

15. *Chlorochroma bicornuta* spec. nov.

*Forewing*: bright apple green; costal edge white, underlined with red, most strongly before apex, and wholly red at extreme base; lines paler, faintly crenulate; the inner oblique from one-fifth of costa to one-third of inner margin; the outer at two-thirds, oblique outwards to vein 6, there bluntly angled and oblique inwards parallel to termen, slightly outcurved above inner margin; the inner line is followed, as the outer is preceded, by slightly darker green, towards costa faintly red-tinged; discocellular grey-brown, marked with a deeper spot at top and at the angle below, emitting a grey-brown tooth along vein 5 parallel to that on lower arm; terminal line deep red, marked with red points at end of veins, slightly swollen at vein 1; fringe yellow.

*Hindwing*: with large black-brown cell-spot and curved outer line; the terminal lines and spots thicker.

Underside whitish, deep green below the white costa of forewing, which is tinged with red at base and underlined with dark towards apex; discocellular obscurely marked with fawn-colour; dark terminal dots on forewing from apex to vein 4.

Face, thorax, and dorsum green, the last with a broad yellow stripe; palpi white beneath, reddish above, with the tips red-brown; vertex and shaft of antennae snow-white; occiput deep red; pectus, venter, and legs white; forelegs tinged in front with dull red.

Expanse of wings: 30-32 mm.

2 ♂♂ from the Setekwa River and the Oetakwa River respectively, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

The discocellular mark of forewing is shaped as in *rafimarga*.

16. *Chlorochroma consobrina* spec. nov.

Extremely like *C. rafistriga* Warr. (*Nor. Zool.* xiii, p. 85 (1906)), but distinguished by the inner line, which is curved, not straight; cell-mark a dark spot, not a linear mark; the hindwing has the hindmargin bluntly but distinctly angled at middle, instead of being rounded.

Expanse of wings: 38 mm.

2 ♂♂, 2 ♀♀ from Ninay Valley, Central Arifak Mts., Dutch New Guinea, 3500 ft., November 1908 to March 1909.

17. *Chlorochroma delicata* spec. nov.

*Forewing*: bright green, thickly scaled; costa narrowly yellow, with the extreme base green; lines very indistinct, marked by white points on the veins; the outer line nearly straight, not incurved below middle, as in *C. strigicosta*; fringe shining yellow, with the terminal dots minute; cell-spot green.

*Hindwing*: with outer line only, bent at middle.

Underside paler green, with the terminal dots plainer; costa of forewing yellow finely speckled with fawn-colour; the subcostal area deeper green.

Face, outside of palpi, vertex, thorax, and dorsum green; fillet and shaft of antennae snow-white; pectus, venter, and legs white.

The hindwing has the termen less strongly bent at vein 4 than in *C. strigicosta*.

Expanse of wings: 38 mm.

1 ♂, 1 ♀ from near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

18. *Chlorochroma indentilinea* spec. nov.

*Forewing* : apple green, extremely finely irrorated with minute pale atoms ; costal edge ochreous white, underlined with lilac grey ; the lines whitish, the inner excurred from subcostal vein at one-fifth to one-third of inner margin ; the outer lunulate-dentate from below costa at two-thirds, incurved above middle, and strongly incurved from vein 3 to submedian fold, thence vertical ; cell-spot lunular, brown, with a deeper brown spot at lower end ; terminal line lilac, darker at the vein ends ; fringe yellow.

*Hindwing* : with the inner line waved, nearer base ; the outer line with a prominent projection between veins 3 and 4, thence strongly inbent ; cell-spot with the dark spot at lower end more prominent ; fringe and terminal line as in forewing.

Underside pale green ; a triangular space from costa of forewing deeper green.

Face, collar, thorax, and abdomen green, the last with a broad yellow dorsal stripe starting from middle of thorax ; palpi green above, white below ; vertex snow-white, with a bright red band behind it ; antennal shaft white, the pectinations green ; pectus, legs, and venter white.

Expanse of wings : 42 mm.

1 ♂ from near Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

19. *Chlorochroma pomonae* spec. nov.

*Forewing* : delicate pale green ; costal edge speckled white and pale fuscous ; lines marked by very faint darker green shades with lunulate-dentate edges, the white teeth on the veins alone conspicuous ; a dark green cell-spot ; fringe yellow.

*Hindwing* : with dark green cell-spot and the outer line more bent in middle.

Underside pale green ; costal edge of forewing fuscous-speckled.

Head, thorax, and dorsum green ; fillet and antennal shaft, pectus, venter, and legs white ; palpi externally green.

Expanse of wings : 40 mm.

1 ♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909 (A. S. Meek).

20. *Chlorochroma rufimargo* spec. nov.

*Forewing* : apple green ; costa deep pink, the costal edge, except at base and before apex, narrowly white ; lines diffusely paler green ; the inner oblique from one-fourth of costa to one-third of inner margin, outwardly dentate on median vein and slightly on vein 1, followed by a darker shade of green ; outer line oblique outwards to vein 6, then curved and parallel to termen to two-thirds of inner margin, obscurely dentate-lunulate and slightly swollen on the veins, preceded by a darker green shade ; terminal line thick, pink, swollen along the veins to form triangles, with a faint yellow edging, marked with a dark dot from apex to 6 ; fringe yellow ; cell-mark angular, red-brown, with a projection from its upper end, parallel to the lower arm.

*Hindwing* : with the cell-spot round, bright red ; the outer line well curved.

Underside very pale green ; costa of forewing pale ; some obscure reddish grey scaling along upper edge of cell, over the cell-mark, and above veins 6 and 7 at their base ; fringe yellow, with black dots at base from vein 4 to apex.



Face, thorax, and sides of abdomen green; vertex snow-white with a bright red line behind; palpi red above, white below; a broad pink dorsal line swollen into triangles on each segment; the anal tuft white; pectus, venter, and legs white; forelegs red in front.

Expanse of wings: 32 mm.

2 ♂♂ from near Ootakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

### 21. *Chlorochroma rufinotata* spec. nov.

This species very closely resembles *C. laticostata* Warr., *Nor. Zool.* xiii. p. 84 (1906), described from the Angabunga River, British New Guinea, but differs as follows: it is rather larger in point of size, expanding 32 mm. against 26 mm.; the two lines are darker green, slightly red-tinged, especially at the teeth on the veins, and are not marked with white points; both lines of the forewing and the outer in the hindwing end in red spots on inner margin; the fringes are strongly tinged with red, instead of being pure yellow.

Two ♂♂ from near the Ootakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

### 22. *Chlorochroma serratilinea* spec. nov.

Closely allied to *C. indistincta* Warr., *Nor. Zool.* x. p. 355 (1903), from the Upper Aroa River, British New Guinea, but the lines are white and distinct, very strongly dentate; the white costa is underlined with fawn-colour; lastly, the fringes are grey, not green, much darker on the underside and dotted with dark beyond veins; the underside of both wings whitish throughout; dorsum with white spots on last four segments.

Expanse of wings: 34—36 mm.

Two ♀♀ from near the Ootakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

### 23. *Chlorochroma strigicosta* spec. nov.

*Forewing*: pale green, somewhat thinly scaled and semitransparent; costa green at extreme base, then white densely striated with fawn-colour; lines pale, very indistinct; inner oblique outwards from near base of costa to one-third of inner margin, dentate inwards on veins, the teeth marked by pale points; outer line lunulate-dentate, at two-thirds, the teeth marked by white vein-points, preceded by a darker shade of green; cell-spot red-brown, lunulate; fringe yellow, with minute dark points at ends of veins.

*Hindwing*: with outer line only, excurved in middle; cell-spot linear, green.

Underside paler green; costa of forewing yellowish freckled with brown; the subcostal area deeper green.

Face, vertex, thorax, and abdomen green; palpi green externally, white within; fillet snow-white; pectus, venter, and legs whitish.

Expanse of wings: 40 mm.

One ♀ from near Ootakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

Allied to *C. marginipunctata* Warr., but that species has the costa wholly white.

24. *Chrysochloroma rubritincta* Warr., ab. *fuscimargo* nov.

In *Nor. Zool.* vol. iii, p. 364 (1896) I described *rubritincta* from New Guinea as a subspecies of (*subalbida* Warr.) = *megalopectera* Lower from North Queensland. Having now seen several specimens of both forms, I am convinced that *rubritincta* is a good species. Of two ♀♀ from the Oetakwa River, Snow Mts., Dutch New Guinea, one agrees perfectly with the type, the other I describe as ab. *fuscimargo* nov.; in it the forewing has a cloudy fuscous marginal shade from anal angle becoming obsolete above middle, while the hindwing possesses a broad fuscous terminal cloud, which fades out before the anal angle; the large cell-spot of hindwing is encircled by a diffuse fuscous cloud, and there are two or three small patches of fuscous scales between it and the terminal border; in all other points it agrees with typical specimens. The two examples were taken by A. S. Meek between October and December 1910.

25. *Dioscore simplex* spec. nov.

*Forewing*: dull grey-green; inner line marked by white dots on the veins; outer line by a curved row of white vein-spots at two-thirds; fringe dark grey, with large white spots beyond the veins.

*Hindwing*: with the row of spots roundly bent at middle; a shining white slightly raised spot on upper arm of discocellular.

Underside much paler, somewhat yellowish-tinged towards costa.

Face, tips of palpi, and forelegs pale brown; vertex, thorax, and dorsum concolorous with wings; fillet and antennal shaft white.

Expanse of wings: 46 mm.

2 ♀♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909.

26. *Gelasma saturata* spec. nov.

*Forewing*: very deep grass-green; lines faintly paler, but very indistinct; the inner curved and followed by a slightly darker shade; the outer from three-fourths of inner margin, nearly parallel to termen, and becoming obsolete above middle; a small brown cell-spot; a fine brown terminal line slightly swollen between veins; fringe brown, rather glossy, with the base somewhat paler.

*Hindwing*: with a large brown cell-spot; the outer line plainer and bent below middle; the terminal area broadly brown; fringe as in forewing.

Underside brighter green; fringe of both wings dark brown; termen of hindwing with some small dull brown clouds between the veins.

Vertex, thorax, and abdomen concolorous with wings; face deep brown above, paler below; palpi above deep brown, below greenish white; antennae deep green; pectus and venter whitish green.

Expanse of wings: 42 mm.

1 ♂ from the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000—3000 ft., July 1910 (A. S. Meek).

Allied to *G. electrica* Warr., *Nor. Zool.* iii, p. 363 (1896), from Ron Island, New Guinea.

27. *Halterophora nereis* spec. nov.

*Forewing*: deep sea-green, marked with three oblique white bands; the first broad near base, from inner margin to upper edge of cell, slightly waved, and

pointed at top, followed by a faint pale line before the dark green cell-spot; outer band white, its edges slightly lunulate-dentate from costa before apex, where it is thin and faint, to middle of inner margin, more oblique inwards below vein 4; a less distinct submarginal band, oblique below vein 2, ending near outer band; slightly paler green horizontal streaks in the intervals above vein 4 before outer line; a fine dark green marginal line; fringe green; costa minutely brown-speckled.

*Hindwing*: with base dark green, followed by an inner white band, on the edge of which is the deeper green cell-spot; a broad curved white band from before apex to two-thirds of inner margin, with diffuse outer edge, and a submarginal one from apex to torus.

Underside whitish green, the pale bands showing through; costal area, and cell-fold of forewing, and base of hindwing deep green.

Head and thorax deep green; abdomen paler green, with white segmental belts; antennae green.

Expanse of wings: 44 mm.

1 ♂ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., November 1908 to January 1909.

Allied to but distinct from *thalassias* Warr.

#### 28. *Mixochlora radiata* spec. nov.

*Forewing*: deep green, with paler lustrous green shading; an outwardly oblique pale band from about one-fourth of costa to one-third of inner margin; an oblique slightly curved pale line from below three-fourths of costa to middle of inner margin, emitting pale horizontal streaks outwards between the veins, diminishing in length and clearness upwards; another pale line, more strongly curved, from apex to inner margin before anal angle; the cell before and a slight space beyond the dark discal mark paler; fringe green, with paler tips.

*Hindwing*: with a straight pale line in middle, emitting, as in forewing, pale rays outwards; a pale interrupted submarginal line; base of wing with paler streaks between the veins; the discal spot dark green.

Underside pale yellow-green, with dark green cell-spots, distinct outer, and slight submarginal lines; fringe dark green; costa of forewing yellow.

Head, thorax, and abdomen deep green; centre of vertex whitish; the dorsum mixed with whitish.

Expanse of wings: ♂ 46 mm.; ♀ 48 mm.

3 ♂♂, 1 ♀ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909.

#### Genus *Oxypora* gen. nov.

Wings thinly scaled, semi-transparent; costa straight but strongly shouldered at base; apex blunt; termen curved; the hindwing with a slight elbow at vein 4; palpi porrect, slender; tongue well developed; antennae of ♂ plumose to beyond middle; of ♀ with the segments triangular, closely pubescent; discocellular of forewing with the upper arm oblique inwards, then acutely angled inwards, the lower arm long and curved; of hindwing with the upper arm vertical to below the origin of vein 5, then long and curved as in forewing; veins 6, 7, 8, 9, 10 stalked

from end of cell in forewing : 11 free, closely appressed to 12 but not anastomosing ; in hindwing veins 6, 7 stalked and (in one species) 3, 4 also shortly stalked.

Type : *Oxypora dentilinea* spec. nov.

### 29. *Oxypora dentilinea* spec. nov.

*Forewing* : ♀ dull green, semitransparent ; costal edge yellow with very fine dark strigae ; lines shining whitish ; the inner at one-third much waved, indented on the veins and with a strong projection, faintly double, on each fold ; it is preceded by basal and subbasal fainter lines parallel to it ; outer line lunulate-dentate, strongly incurved at the folds ; subterminal line parallel, but marked chiefly by the teeth on the veins and a single lunule across submedian fold ; veins towards termen finely dark green ; terminal line fine, dark green, with whitish dots at the vein ends ; fringe green.

*Hindwing* : without basal lines ; the short upper arm of discocellular marked by a shining whitish spot ; a shining pale spot at base of both wings.

Underside pale green, with the markings showing through. In the ♂ only the outer line is visible, the scaling being thicker.

Face and fillet greenish white ; vertex, thorax, and basal half of dorsum green ; anal half ochreous ; legs and venter whitish ; shaft of antennae whitish, the pectinations dark.

Expanse of wings : ♂ 28 mm., ♀ 32 mm.

A pair from the Upper Setekwa River, Snow Mts., Dutch New Guinea, 2000 to 3000 ft., August 1910 (A. S. Meek).

### 30. *Oxypora spilota* spec. nov.

*Forewing* : dull green with the veins darker ; costal edge strongly speckled with brown ; inner line waved as in *dentilinea*, but whiter, touching the dark green upper arm of discocellular ; outer line marked by white spots on the veins ; terminal line thicker ; fringe pale green with white dots at base between the veins.

*Hindwing* : with outer line only ; upper arm of discocellular greenish white ; a large white spot in tooth below vein 4.

Underside pale green, with the white spots showing through.

Face greenish white ; vertex, thorax, and dorsum green, segments 4 and 5 with black saddle-shaped blotches ; underside and legs white ; shaft of antennae pink, the pectinations pale.

Expanse of wings : ♂ ♀ 30 mm.

A pair from the Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

In this species the angle of discocellular in forewing is not so deep as in the type species ; veins 6, 7 are more shortly stalked in hindwing, while 3 and 4 are shortly stalked in hindwing and connate in forewing ; in *dentilinea* vein 3 rises well before 4.

### 31. *Probolosceles agathia* spec. nov.

*Forewing* : green ; the costal edge yellowish ; the markings reddish ; lines double, band-like, their edges deep red, the centre grey ; first close to base, interrupted in middle, consisting of a subcostal spot and a smaller one on inner margin ; second line just beyond middle, vertical, the edges lunulate between the

veins ; at vein 2, where it joins the outer border, strongly curved inwards to near middle of inner margin ; outer border broader, forming a slight sinus outwards between 4 and 6 and another from 4 to 2, expanding below vein 2 into a rounded blotch ; red terminal spots between veins ; fringe reddish green.

*Hindwing* : with only the red border, which is broad at apex, redder-edged internally, forming a sinus outwards between 2 and 4 and a smaller one above, and a rounded blotch at anal angle, the inner margin narrowly red in middle.

Underside whitish green, the markings slightly indicated.

Face and palpi red above, white beneath : fillet whitish, antennal shaft whitish, the pectinations reddish ; shoulders bright green ; patagia green with the tips reddish ; dorsum red ; pectus, venter, and anal segment pale greenish.

Expanse of wings : 20 mm.

1 ♀ from Kumasi River, British New Guinea, August 1907 (A. S. Meek).  
The ♀ has pectinated antennae.

The markings recall those of the genus *Agathia*.

### 32. *Probolosceles moniliata* spec. nov.

*Forewing* : deep bright green ; costa broadly cream-white, underlined with bright pink before apex ; inner and outer lines marked by red spots on inner margin ; the outer lunulate-dentate, but hardly traceable except by a deeper shade ; the terminal line deep pink, interrupted by large white spots at the end of the veins ; fringe bright pink in basal half, whitish in apical ; cell-spots red-brown.

*Hindwing* : green, blurred with whitish and grey-green, deeper along costa ; traces of a crenulate outer line, ending in a red spot on inner margin ; cell-spot red ; fringe as in forewing.

Underside pale green, the forewing flushed with reddish towards base ; costa yellow ; fringe rosy.

Face, palpi externally, vertex, thorax, and dorsum deep green, the last paler towards anus ; fillet white ; pectus, venter, and legs whitish.

Expanse of wings : 26 mm.

1 ♂ from Rendova, Solomon Islands, February 1904 (A. S. Meek).

Remarkable for the blurred green hindwings and bright pink fringes.

### 33. *Pyrrhaspis reversa* spec. nov.

*Forewing* : dull green with scattered pale vermiculations ; costal edge white, becoming ochreous towards apex ; lines marked by white dashes on veins ; the inner very inconspicuous, oblique outwards ; the outer as in *glauca* nearly straight, commencing at vein 6, the dash on vein 3 slightly exterior to the rest, that on vein 1 the same size as the others ; upper arm of discocellular green, the lower curved part silvery white ; large white terminal spots at the ends of the veins running out into the fuscous fringe.

*Hindwing* : without inner line ; the outer bent on vein 4 ; the upper part of discocellular silvery white, the lower green ; terminal spots and fringe the same as in forewing.

Underside uniform whitish green.

Face, palpi, thorax, and abdomen green, the last with white segmental rings and dorsal spots ; vertex, pectus, venter, and legs whitish ; forelegs reddish in front.

Expanse of wings : 46 mm.

1 ♀ from Upper Setekwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek).

34. *Thalassodes flavifimbria* spec. nov.

*Forewing* : rather deep green, the scaling thicker than in *ceraria* Guen., with a few whitish strigulae ; the costal edge pale yellow ; inner line fine, white, oblique to one-third of inner margin ; outer straight, white, at two-thirds : fringe yellow.

*Hindwing* : with outer line running parallel to termen throughout, the lower part crenulate and finer ; fringe yellow.

Underside paler green, the white outer line showing through : costa of forewing yellow.

Face, thorax, and dorsum green ; fillet and anal segment whitish.

Expanse of wings : 31—35 mm.

2 ♂♂ from Kumasi River, British New Guinea, June 1907 (Meek).

The species resembles *T. albifimbria* from South Africa, but the fringe is yellow instead of white and the face green ; the termen of forewing is slightly bent at vein 4.

35. *Thalassodes halioscia* spec. nov.

*Forewing* : deep sea-green, semihyaline and iridescent, with numerous pale vermiculations, which are slightly less abundant in the central area and make it appear darker ; costa narrowly yellow ; lines whitish, faint ; the inner oblique at one-fourth, the green just beyond it deeper ; the outer somewhat lunulate-dentate at two-thirds, preceded by a deeper green shade and obsolete above middle ; a deeper green cell-spot ; fringe green.

*Hindwing* : with the outer line bent at vein 4.

Underside paler, with the costa of forewing yellowish.

Thorax and dorsum deep green ; fillet and antennal shaft white ; face and palpi externally reddish brown ; pectus, venter, and legs whitish ; the forelegs reddish in front.

Expanse of wings : 40 mm.

1 ♂, 1 ♀ from Arawa, Bougainville, Solomon Islands, December 1907 (Meek).

Broader-winged and deeper green than *byrsopsis* Meyr.

36. *Thalassodes rubellifrons* spec. nov.

Exactly like *T. subviridis* Warr., *Nor. Zool.* xii. p. 10 (1905), from Christmas Island, but the face and palpi are red instead of green.

1 ♂ from Ninay Valley, Central Arfak Mts., Dutch New Guinea, 3500 ft., November 1908 to January 1909.

SUBFAMILY DEILINIINAE.

Genus *Meekia* gen. nov.

*Forewing* : elongate triangular ; the costa straight ; apex prominent, blunt ; termen obliquely curved ; hindwing with termen and both angles rounded ; scaling smooth and slightly glossy ; base of hindwing shouldered, occupied in the ♂ by a swollen bladdery pustule ; frenulum present, fine ; tongue present ; palpi

porrect, decumbent, laterally flattened, the segments obscured; antennae lamellate, with short clavate teeth; legs simple, hind-tibiae with four spurs; neuration: forewing with cell a little longer than half of wing; discocellular vertical; vein 2 at two-thirds, 3 close before 4; radials normal; 7, 8, 9 stalked from before end of cell; 10, 11 stalked, the stalk anastomosing at a point with 12, then again strongly with the stalk of 7, 8, 9; hindwing with costal and subcostal shortly anastomosing at middle of cell; 3 and 7 well before angles of cell; no radial.

Type: *Meekia flavicosta* spec. nov.

This genus presents several anomalies.

### 37. *Meekia flavicosta* spec. nov. and ab. *tincta* nov.

*Forewing*: shining white, speckled with olive brown; costal streak brownish yellow with dark freckling; inner and outer lines at one-third and two-thirds, oblique parallel to termen, formed of brown specks, plain only in lower half of wing and not reaching the costa, in the ♂ hardly marked, except by brown spots on inner margin; slight brown terminal spots, stronger in ♀; fringe white; cell-spot round and black, distinct in ♀, obsolete in ♂.

*Hindwing*: with the two lines distinct in lower half of wing in the ♀, absent in the ♂; cell-spot present in ♀ only.

Underside white: costa of forewing yellow; terminal black dots present; cell-spots present in ♀ only.

Face and palpi brownish yellow; vertex, thorax, and abdomen white; pectus, venter, and legs white; the forelegs brownish yellow in front.

Expanse of wings: 22 mm.

1 ♀, 2 ♂♂, from near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October to December 1910 (A. S. Meek), and 1 ♂ from the Upper Setekwa River, August 1910.

2 ♂♂ from the former locality must be separated as ab. *tincta*; both wings, above and below, are pale straw-colour, except at base, which is white, like the vertex and thorax, while the abdomen is straw-colour; unlike the typical ♂♂ these have the two lines, the cell-spots, and terminal dots as strongly marked as in the ♀.

NOTE ON *CONURUS AERUGINOSUS* AND THE ALLIED SPECIES.

By T. SALVADORI, C.M.Z.S.

REVIEWING the species of the genus *Conurus* for Wytsman's *Genera of Birds*, I have found some difficulty in fixing the characters distinguishing the species of the *C. aeruginosus* and *C. pertinax* group. Luckily I have had the good fortune to receive from the Hon. W. Rothschild a large series of specimens of nearly all the known species of the group.

In the *Catalogue of Birds*, vol. xx., containing the Parrots, only four species of that group were recognised: *C. cactorum*, which needs no special remark, *C. aeruginosus*, *C. ocellaris*, and *C. pertinax*. The want of specimens prevented me from recognising some other species. To *C. pertinax* was attributed by me also *C. xanthogenius* Bp., *Consp.* i. p. 1 (1850), described from a specimen said to be from Brazil. It was the good fortune of Dr. Hartert to rediscover the bird in the Island of Bonaire, fixing its specific characters (*Ibis*, 1903, p. 331). Also Mr. Cory (*Field Mus. of Nat. Hist., Orn.* i. p. 211, 1909) has received a good series of specimens collected in the Island of Bonaire by Mr. Ferry; he also rightly notices that the golden-yellow crown will always distinguish adult birds in full plumage, while immature birds have the crown yellow with a few green feathers, or the crown green with a few yellow feathers, and, lastly, young birds have the crown entirely green without yellow, and showing only a trace of orange yellow on the forehead. Specimens of similar descriptions are among the six birds sent me from Tring.

Of *C. pertinax* I have received four specimens, three of them from Curaçao. This species is very similar to *C. xanthogenius*, but it never has the head entirely yellow orange, although sometimes it shows yellow feathers among the green and blue ones of the top of the head. One specimen, which lived in the Zoological Society's Gardens, without exact locality, has the bill much stronger, with the hook very long, probably from having been kept in confinement.

Of *C. ocellaris* I have examined a good series of thirteen specimens: in every one of them the green of the crown comes forward as far as the base of the bill; there is no trace of yellow frontal band. The series does not show much individual variation; on the contrary, it is very uniform. In this species the yellow patch under the eyes is sharply defined.

Of *C. aeruginosus* I have received from Tring a large series of over thirty specimens from British Guiana (Roraima, Anai), from Margarita Island, and from Venezuela (Ciudad Bolivar, Cumana, Campos Alegre, Cariaco, Altagracia, Suapure, Maipures, San Carlos (if in Venezuela), and Valencia). They show some variations; as already remarked by Count Berlepsch and Dr. Hartert (*Noe. Zool.* ix. p. 107), the specimens from Ciudad Bolivar, as well as those from Suapure, have mostly more yellow about the eyes. The young birds of *C. aeruginosus* have the crown green, scarcely tinged with blue, and the yellow circle round the eyes not very prominent—nearly obsolete.

Very near to *C. aeruginosus* comes *C. arubensis* Hart., of which I have seen



the type and a second specimen. Count Berlepsch and Dr. Hartert (*loc.*) have already noticed that some specimens of *C. auruginosus* collected by Mr. Cherrie in the Orinoco Region (especially from Ciudad Bolivar and Altigracia, and in Margarita Island) approach those of *C. arabensis*. I think that in some cases it will be difficult to distinguish the two forms, although the cheeks and throat of *C. arabensis* appear somewhat paler. Among the specimens of *C. auruginosus*, the more western, among those belonging to the Tring Museum, is one from Valencia.

From Antioquia, in Colombia, the Tring Museum possesses one specimen purchased from Mr. Dunstall; it has been kept in confinement, and differs from all the specimens of *C. auruginosus* in having the cheeks and throat very dark brown, the feathers of the cheeks distinctly of a scale-like appearance; besides, it has a very narrow yellow line bordering the lower eyelid. A similar specimen, but of a darker tinge on the throat and cheeks, is kept alive by Dr. Festa, of Turin. It appears to me that the latter, the Antioquian one, and probably all the Colombian ones, belong to a form distinct from the one from Venezuela and British Guiana; the Colombian form, I think, must stand as *C. chrysophrys* Sw., figured by Sonaucé, *Icon. Perr.* pl. xi.

I am not acquainted with *C. tortugensis* Cory, *Field Mus. of Nat. Hist., Orn.* i. p. 220 (1909), from Tortuga Island, similar to *C. auruginosus*, but with the sides of the head more orange yellow, and with the lower part of the cheeks paler, as in *C. arabensis*.

In conclusion, instead of the four species admitted in the *Catalogue of Birds* in 1891, we have now eight\*: *C. cactorum*, from S.E. Brazil, *C. xanthogenus*, from Bonaire, *C. pertinax*, from Curaçao and Saint Thomas, *C. ocularis*, from Panama, *C. auruginosus*, from British Guiana and Venezuela, *C. arabensis*, from Aruba, *C. tortugensis*, from Tortuga Island, and *C. chrysophrys*, from Colombia.

\* In the opinion of the Editors, although they agree as to there being eight forms, all of the above are subspecies of one species; and so it would be strange if some specimens did not show intergradations in plumage.

---

*CALIGULA* HYBR. *SALMONI*, A NEW HYBRID OF  
*SATURNIIDAE*.

By J. HENRY WATSON.

IN the *Transactions of the Manchester Entomological Society*, 1910, I called attention to the ova obtained by Mr. Salmon from a pairing between *C. japonica* ♂ and *C. simla* ♀, both moths having been reared on hawthorn. At the same time I mentioned that the larvae of the two species were very similar, except that *C. simla* went lighter in colour one stage in advance of *C. japonica*.



*Caligula* hybr. *salmoni*.

Very few of the ova laid hatched out—about eight only—and of these larvae but four spun up, two being reared by Mr. Salmon and two by myself. The larvae were undistinguishable from *japonica* or *simla*, and were fed on hawthorn. One ♀ emerged August 7, 1911, and another in Mr. Salmon's possession on August 24.

It is interesting to note that both specimens were infertile. I have one ♂ pupa which appears to be deferring its emergence till next year. One larva of Mr. Salmon's died in cocoon. I dissected the first ♀ hatched; its soft flaccid body told me there were no ova in the body, and this was verified on dissection. **There**

are no traces of eggs in this ♀, nor in the later one hatched, and it remains yet to be seen if the ♂ is fertile. Judging from this result we must keep *simla* and *japonica* distinct.

This case may be on a par with *Antherea* hybr. *Kirbyi* raised by my old correspondent Mons. Alfred Wailly in 1881, which he got to pair with one another and which he reared through three generations. Others, however, have since bred this hybrid, but the specimens are uniformly all **unfertile**. A pair of Wailly's original hybrid which he sent to me are in the collection of the Manchester Museum. Perhaps others who cross *C. japonica* and *C. simla* may under other conditions induce fertility in the hybrid.

In describing this hybrid I wish to associate Mr. Salmon's name with it, calling it *C. hyb. salmoni*.

Colour intermediate between *japonica* and *simla*; forewings more pointed than either parent; the eye-spot well within the pale central fascia. Hindwing with the marginal line as pronounced as in *simla*, in *japonica* the line being very faint or wanting.

Two ♀ ♀, one in my own and one in Mr. A. E. Salmon's collection.

## NEW ANTHRIBIDAE IN THE COLLECTION OF H. E. ANDREWES.

BY DR. K. JORDAN.

THE types of the new *Anthribidae* described below are in the collection of H. E. Andrewes, one or more cotypes being in each case presented to the Tring Museum. The specimens were collected by H. L. Andrewes, if not stated otherwise.

### 1. *Physopterus callocerus* spec. nov.

♂ ♀. Niger, fulvo pubescens, sparsim griseo guttatus. Antennae rufae, griseo-rufo pubescentes, clava nigra, segmento 2<sup>o</sup> in utroque sexu tertio brevior. Prothorax serie transversa guttarum grisearum notatus. Elytra post medium valde convexa, haud tuberculata, trientibus basali apicalique griseo pubescentibus, duabus guttis rotundis una subbasali altera ante apicem sitis nigro-velutinis. Tibiae tarsipae rufescentes, griseo-rufo pubescentes, non annulati.

Long. (cap. excl.) 7—9 mm.

5 ♂ ♂ and 3 ♀ ♀ from the Nilgiri Hills, 3500 ft., rainy season, also found by Capt. A. K. Weld Downing in the Ouchterlony valley, Nilgiris, at 3500 ft., on tree-stems, in June.

The grey spots are fairly distinct on the elytra excepting a transverse belt in front of the apical declivity. The elytra are transversely depressed behind the but slightly elevate subbasal callosities, and somewhat resemble in shape those of *P. gibbosus* Guér. (1843), but are shorter, as is also the prothorax. The bright-coloured antennae and the two velvety black spots on each elytrum distinguish this species at a glance.

2. *Phloiophilus sulcirostris russia* subsp. nov.

♂ ♀. *Ph. salc. sulcirostri* persimilis, oculis minus obliquis, fronte latiore, elytris brevioribus, fortius striatis, ad suturam magis depressis, tuberculis subbasalibus majoribus diversus.

One pair from Caia, Zambezi, February 9, 1911 (H. Schwale).

The elytra bear a well-defined luteous spot behind the middle between the second and fifth stripes. The pubescence of the upperside is of a more russet tint than in *P. s. sulcirostris*.

3. *Litocerus hamearis* spec. nov.

♂ ♀. Niger, supra luteo signatus, infra griseo pubescens, antennarum segmentis ad basin rufis, segmento ultimo ad apicem luteo, femoribus tibiis tarsorumque segmentis ad basin plus minusve rufis.

Rostrum latitudine parum longius, fere verticale, quinque-carinatum, carina media ad apicem usque fere extensa. Frons valde triangularis, oculis in ♂ antice subcontiguus. Funiculus antennarum in ♂ distincte incrassatus, sed gracilior quam clava, segmento 8° in utroque sexu nono brevior. Pronotum versus latera punctatum, vitta mediana et puncto ad sulcum transversum desinentem sito et lateribus duas guttas nigras includentibus luteis, carina dorsali convexa, ad latera in angulo recto antrorsum flexa. Elytra retrorsum paulo angustata, ad suturam levissime depressa, sat grosse punctato-striata; macula basali suturali postice divisa antice ad marginem basalem versus humeros continuata, deinde macula etiam suturali oblonga, praeterea guttis minoribus in 4 vel 5 seriebus transversis plus minusve arcuatis positis. Abdomen in ♂ et ♀ convexum.

Long. (cap. excl.) 4—4.5 mm.

4 ♂♂ and 3 ♀♀ from Karkur Ghat, Nilgiri Hills, May 1911.

Near *L. humeralis* Jord. (1894), but the rostrum is shorter, the frons decidedly more triangular, the shaft as well as the club of the antennae are less slender, the eighth antennal segment in the ♂ is one-third and in the ♀ one-half shorter than the ninth, the markings of the elytra are smaller, the last abdominal sternite of the ♂ is not flattened and the antennae and legs are much less extended rufous.

4. *Litocerus taeniatus* spec. nov.

♂ ♀. Speciei *L. pacifici* Lesne (1891) dietae valde affinis; fronte angustiore, pronoto minus dense punctato magis rugoso vitta mediana completa ad sulcum transversum et carinam constricta notato, carina dorsali minus convexa distinguendus.

1 ♂ from the Nilgiri Hills, rainy season, 3500 ft., and 1 ♀ from Nadgani, Nilgiri Hills, 2500 ft., October 1910.

The frons is anteriorly in the ♂ as wide and in the ♀ half as wide again as the second segment of the antennae.

5. *Nessiara olivacea* spec. nov.

♂ ♀. Nigra, tomento griseo-olivaceo dense vestita, nigro signata; prothorace quatuor maculis dorsalibus diagonaliter connexis atque tribus in utroque latere sitis nigris; elytris nigro-guttulatis, guttulis in medio plus minusve confluis. Oculis

in ♂ fere contignis, in ♀ separatis interspatio quintae parti rostri latitudinis aequali. Carina dorsali prothoracis in medio leviter et versus latera distinctius retrorsum flexa.

Long. (cap. excl.) 7—7.5 mm.

1 ♂ and 1 ♀ from Anaimalai and Karkur Ghat, Nilgiri Hills, 3500—4000 ft., buzzing about and settling on felled trees : exactly like a blue-bottle in mode of flight.

Rostrum nearly double as broad as long, with a feebly raised obtuse mesial carina. Underside of head, prosternum and underside of fore and mid femora with rather long hair. Antennae black, short, the club less loose than in most species, in ♀ segments 10 and 11 broader than, in ♂ as broad as, long. The four dorsal spots of the pronotum diagonally united by two thin lines. The elytra hardly at all depressed at the suture, almost evenly convex everywhere, at each side of the scutellum a black spot, numerous small black spots irregularly scattered over the surface, those placed in the centre between stripes 1 and 5 confluent, a moderately large spot on apical declivity. Under surface silky. Tips of tibiae blackish ; mid tibia of ♂ mucronate.

Unlike any other species known to me.

#### 6. *Disphaerona verrucella* spec. nov.

♂ ♀. Nigra, tomento fulvo-ochraceo vestita, tibiis annulo bene expresso sub-mediano ornatis, antennarum funiculo atque tarsorum segmentis 3<sup>o</sup> 4<sup>o</sup>que rufescentibus, clava apice pallide rufa. Caput cum rostro grisescens. Carina pronoti valde irregularis undulata, ad latera in summo lobo magno prothoracis sita. Elytra dense tuberculata, ante apicem abrupte declivem tuberculo magno et pone basin utriusque elytri duobus tuberculis minoribus instructa.

Long. (cap. excl.) 4.5—5.5 mm.

1 ♂ and 1 ♀ from the Nilgiri Hills, the ♂ found by Capt. A. K. Weld Downing, the ♀ by H. L. Andrewes.

The frons is anteriorly in the ♂ a little narrower and in the ♀ a little wider than half the width of the rostrum. The prothorax offers the most distinctive features, being dilated behind the centre of the sides into a lobe which is rounded in a dorsal view. The carina is curved backwards in centre, then forward, again backward, forward, and then runs in a curve along the crest of the lateral lobe ; the pronotum is transversely raised into several indefinite tubercles placed between the carina and apex ; puncturation coarse and dispersed. The globular elytra are very rough, all the interspaces being tuberculate. The tubercle placed in the third interspace in front of the apical declivity is large, there being another fairly large tubercle in the same interspace near the base and a small one between that tubercle and the scutellum ; the declivous apex is somewhat flattened and bears in the ♂ a black patch on the suture ; the submarginal interspace bears some grey dots.

#### 7. *Phaulimia priva nigrina* subsp. nov.

♂ ♀. Nigra, subtus luteo et nigro maculata.

1 ♂ and 2 ♀ ♀ from Karkur Ghat, Nilgiri Hills, 1500 ft., May 1911 (H. L. Andrewes).

Much darker than *Ph. priva priva*, the legs reddish only at the joints, the

alternate interspaces of the elytra very conspicuously spotted black and luteous, the third interspace with a slightly larger luteous spot before and behind the middle.

8. **Habrissus andrewesi** nom. nov.

*Habrissus sellifer* Jord. (nec Lac. 1867), *Nov. Zool.* p. 409 (1906).

By some oversight I believed the name of Lacordaire's species to be *sellatus* (cf. *Stett. Ent. Zeit.* 1895, p. 178), and chose the name *sellifer* to denote the close affinity of the two insects. However, Lacordaire named his species *sellifer*, and therefore the one described by me requires a new name. Mr. Andrewes drew my attention to the error, and I have much pleasure in associating his name with the present species.

9. **Habrissus molitor** spec. nov.

♀. *H. sellifero* Lac. (1867) valde affinis, tomento denso sat longo griseo-albo vestitus, nigro signatus, antennis nigris, segmentis 1°-8° basi apiceque rufescentibus.—Long. (cap. excl.) 8 mm.

2 ♀♀ from Karknr Ghat, 1500—2000 ft., May and July 1911.

Pronotum with a few indistinct black spots at the sides and in front of the scutellum. Elytra with a spot at the scutellum, on the subbasal callosity, shoulder angle and behind the shoulders black, before the middle a transverse band of black confluent spots widest at the suture, another band at the beginning of the apical declivity; suture hardly at all depressed. Pygidium greyish white with a median spot and the apical margin black.

On the underside two black dots on the metepisternum and a row of indistinct lateral spots on the abdomen placed at the bases of the segments. A median spot on the femora, the apices of the tibiae and of the first and fourth tarsal segments as well as the whole upperside of the second and third segments black.

---

DESCRIPTIONS OF TWO GIANT RATS FROM NEW GUINEA,  
PRESENTED TO THE BRITISH MUSEUM BY THE HON.  
WALTER ROTHSCHILD, F.R.S.

BY OLDFIELD THOMAS.

(Published by permission of the Trustees of the British Museum.)

***Uromys rothschildi* sp. n.**

A very large wholly black-tailed species allied to *U. anak*.

Size rather less than in *U. anak*. General colour above blackish grey, appearing at first sight much darker than in *anak*, but this would seem to be due to the fact that the type is almost wholly in fresh unbleached pelage, while that of *anak* is, with the exception of a few patches, in a bleached and reddened condition. These few patches are, as stated in the original description, of a dark grizzled grey, made up of mixed black and white, and this colour is closely similar to that of *U. rothschildi*; the latter appears, however, to be rather more heavily washed with black on the crown and fore-back. Under-surface dull soiled whitish, not sharply defined laterally, the basis of the hairs pale slaty, except on the throat and a small patch on the middle of the chest, where they are white to the roots; chin dark brown. Ears short, rounded, naked, brown. Hands and feet blackish brown above, the digits practically naked. Tail with its basal two inches hairy, blackish; the remainder naked, finely scaled, black to the tip. Mammae, 0-2=4.

Skull essentially rather smaller than that of *U. anak*, but owing to its longer muzzle the total length would be about the same. Nasals very long, narrow, their broadest point in front, then narrowing and again broadening at their middle; not extremely narrowed behind. Supraorbital edges well ridged; a prominent sub-postorbital process present. Diastema very long, with the palatal foramina situated far forwards, their posterior end in front of the anterior end of the anteorbital canal; the distance from their hinder end to the front root of  $m^1$  decidedly greater than that from their front end to the hensenion. Molars smaller than in *U. anak*.

Dimensions, taken on skin: Head and body, 350; tail, 355; hindfoot (wet), 68; ear (wet), 23. Skull, gnathion to basilar suture, 58; zygomatic breadth, 34; nasals, length, 28, anterior breadth, 7.4, middle breadth, 6.5; interorbital breadth, 10.5; breadth between parietal ridges, 18.2; height of muzzle behind incisors, 14.2; height of crown from alveolus of  $m^1$ , 19.5; palatal length, 37.6; diastema, 23; palatal foramina, 6.5 × 3.4; upper molar series (crowns), 12.8.

*Hab.*: Rawlinson Mts., S.E. German New Guinea.

*Type*: Adult female, B.M. No. 12.1.31.2. Collected by C. Keyser, and presented by the Hon. Walter Rothschild, F.R.S.

This fine species, which I have named in honour of the donor of the two valuable rodents now described, is undoubtedly most nearly allied to *U. anak*, but differs by the cranial details above described. *U. validus* and the other related New Guinea species are smaller, and have yellow tail-tips. *U. multiplicatus* Jent., a species based on a young specimen, came from Humboldt Bay, and is therefore not likely to be the same. All this group of *Uromys* have the "multi-plicate" structure of the palate used as a distinguishing character by Dr. Jentink.

**Mallomys hercules** sp. n.

Larger than *M. rothschildi*, nasal and anteorbital region more swollen.

Size very large; one of the largest of the *Maridae*. Fur long, ordinary hairs of back about 35 mm. in length, the longer bristle hairs attaining nearly 70 mm. General colour dark grey ("slate colour"), not very dissimilar to that of *M. rothschildi*, with the exception that the projecting ends of the long bristle hairs are whitish instead of black. The ordinary fur is slaty for most of its length, then browner, blackish at tip, but with commonly a glossy whitish subterminal band. Under-surface cream-buff, nearly white on throat, inner side of forearms, and in inguinal region; in *M. rothschildi* the under-surface is more or less greyish. Chin brown. Head uniformly brownish, the area round the eyes a little darker. Ears short, naked, brown, the fur of the head round them rather greyer than the rest. Hands and feet brown above, the metapodials well haired, the digits less so, but the latter not conspicuously scaly above; claws whitish, that of the hallux alone dark brown. Tail long, its basal four inches thickly furry like the body, the remainder practically naked; scales small (about 7 to the em.), transversely oval, not pointed behind, their posterior edge turned upwards, two or three minute hairs, about a scale in length, growing from behind each of them. (In *Hyomys* the scales are larger—4 to the em.—and pointed posteriorly, the points projecting prominently outwards.) In colour the tail is black proximally, and rather lighter terminally, but not sharply bicolor as in *Hyomys*.

Skull, as compared with that of *M. rothschildi*, considerably larger, and with very much broader muzzle and nasals. Anterior part of supraorbital edges even more inflated than in *rothschildi*, and the upper part of the ascending process of the maxillary—external to the exceedingly slender premaxillary frontal processes—also inflated. Cranial ridges well developed throughout. Palatal foramina more open.

Teeth essentially as in *M. rothschildi*, but there is a median re-entrant angular notch on the hinder side of the middle back cusp of  $m^1$  and  $m^2$ ; the small antero-external cusp of  $m^2$ , found in *M. rothschildi*, is here absent.

Dimensions of the type, measured in skin: Head and body, 470 mm.; tail (c), 400; hindfoot, s.u. 68, c.u. 76.5; ear, 26. Skull, occipito-nasal length, 77; condylo-incisive length, 75.2; zygomatic breadth, 41; nasals, 29.5 × 13; least interorbital breadth, 11.7; breadth across braincase above meatus, 24; palatilar length, 38.3; diastema, 22.2; palatal foramina, 16.2 × 7; upper molar series, 18.

*Hab.*: Rawlinson Mts., S.E. German New Guinea.

*Type*: Adult male, B. M. No. 12. 1. 31. 1. Collected by C. Keyser. Presented by the Hon. Walter Rothschild.

This huge rat, so far as its skull is concerned, is the largest member of the subfamily *Marinae*, though *Mus armundevillei* Jent. has a longer foot; and of the whole family *Muridae* it is only exceeded in size by the Philippine *Phloeomys*. It is readily distinguishable from its congener *M. rothschildi* by the characters given above.

Externally it is curiously similar to *Hyomys meeki*, also from New Guinea, but *Hyomys* has scaly digits, and the scales of the tail are of somewhat different shape. The dentitions of the two genera are of course widely different.



NOTES ON THE STRUCTURE OF THE SEXUALLY MODIFIED SEGMENTS OF THE CIMICIDAE (=CLINOCORIDAE), WITH SPECIAL REFERENCE TO *CLINOCORIS COLUMBARIUS* (JENYNS).

BY THE HON. N. CHARLES ROTHSCHILD, M.A., F.L.S.

(Text-figs. 1-9.)

SINCE the paper by Landois in 1868,\* dealing with the anatomy of the abdomen of the common Bed-bug (*Clinocoris lectularius*), in which the sexually modified segments are insufficiently treated of or incorrectly described, no treatise bearing on the subject of these present notes would appear to have been published. The investigations of the present author on the *Cimicidae* (= *Clinocoridae*) seem to show that the general type of structure of the sexually modified segments is common to the various species and identical in some of them, and the characteristics of these



FIG. 1. FIG. 2. FIG. 3. FIG. 4.

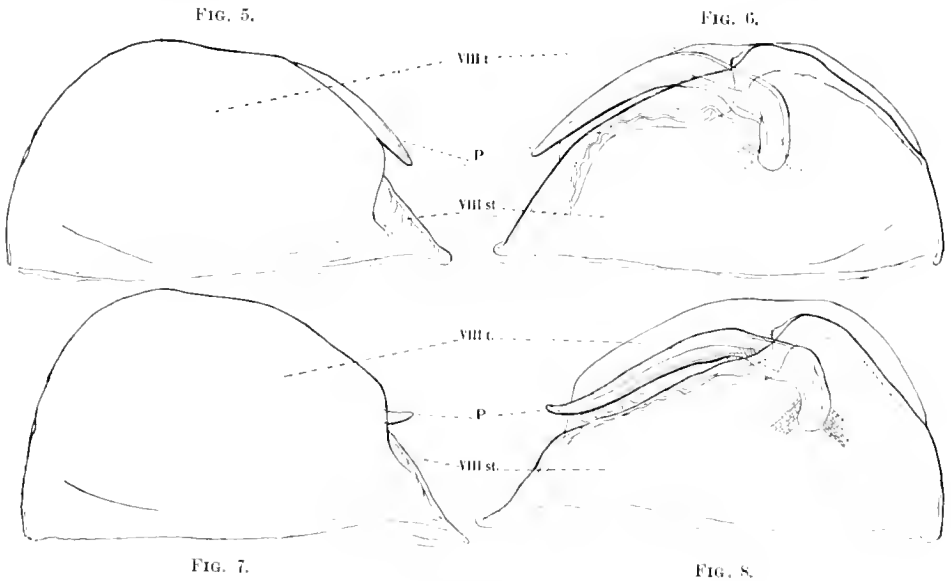
segments do not therefore, as in the Siphonaptera (fleas), always afford a delicate test for the differentiation of closely allied species. In the following notes the insect principally dealt with is not the common Bed-bug (*Cl. lectularius*), but the Pigeon-bug (*Cl. columbarius*), a closely allied species, of which we have recently received a fine series from Mr. E. Thornhill, of Boxworth, Cambs. Incidental references are made to other species, where points worthy of mention have been noticed.

In both sexes of bugs the eighth segment is sexually modified, and in the male both sclerites are affected, each being more or less unsymmetrical; while in the female (and in the female only) the seventh segment is also modified, the sternite being affected, while the tergite like the eighth appears to be normal.

All the segments of these insects are partially covered with hairs. As certain of these hairs are characteristic of the *Cimicidae*, a short description of the four types of them which are found is introduced here. These types, however, inter-

\* *Zeitschr. f. Wissensch. Zoologie*, vol. xix, pp. 207-29, pls. 18 and 19 (1868).

grade and vary very much in length. The first type of hair is a simple bristle, as in other insects—a hair gradually tapering in diameter and pointed at the end (text-fig. 1). Such normal hairs are present on the central portions of the abdominal sternites and the inner side of the tibiae. The second type of hair tapers in diameter from the base to the apex, but the apex is truncate and terminates in several points or teeth (text-fig. 2). These tapering truncate hairs are characteristic of the basal abdominal tergites, where they are longer in the male than in the female; but they also occur in other situations. The third type is cylindrical, thicker than the second, and bears distinct ridges; the apex is truncate and funnel-shaped, with prominent teeth (text-fig. 3). This cylindrical type of hair is prevalent on the edges of the prothorax, and on all the other explanate portions of these insects, but is also found elsewhere. The fourth type of hair is curved, with the convex side dentate, and has a widened and truncate apex (text-fig. 4).



FIGS. 5 and 6.—*Clinocoris columbarius* ♂.  
 .. 7 .. 8.— .. .. *foedus* ♂.

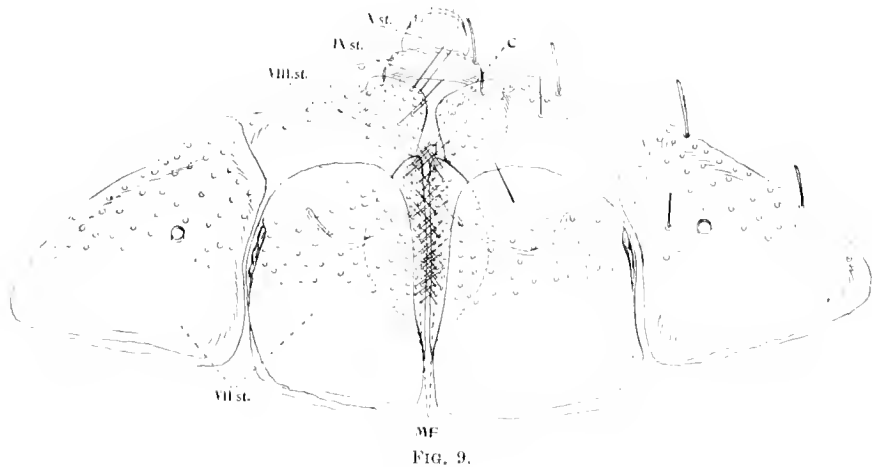
This type of hair occurs chiefly at the sides of the body, where it is associated with type 3.

The eighth segment of the male consists of two unsymmetrical chitinised plates, which are closely applied to one another and fused basally at their lateral edges. Between these the penis reposes when at rest.

The dorsal plate is both larger and less unsymmetrical than the sternite. The shape of this sclerite is best seen from the figure (text-figs. 5 and 7), the basal portion being covered by the seventh tergite in the natural state; the apex of the seventh tergite is scooped out on the left side, where the tip of the penis is held at rest. On the apical portion there are a number of long hairs of the types 3 and 4 described above. The eighth sternite is most remarkable for its complete want of symmetry. It is triangular in shape, and in a dorsal view entirely covered by the tergite except at the base on the extreme left. The shape and structure of this

sclerite can be best studied when viewed from below (*i.e.* when the insect is lying on its back), and the drawing represents its appearance from this position (text-figs. 6 and 8). The apical edge of the eighth sternite is turned inwards, the reflexed portion being undulate and incrassate. The effect of this modification is to provide a groove between the two sclerites of the eighth segment in which the penis is situated when at rest, the groove being transversely ribbed and wrinkled. In *Cacodmus villosus* Stal. this groove is continued to segment 5, owing to the great length of the penis. The eighth sternite bears numerous bristles of type 1. On the inner surface (*i.e.* the turned-in edge), as well as on the outer surface, there are a large number of thin bristles of this type; they are more numerous on the right (when viewed from below) than on the left side, and are sparsest at the point where the outline of the penis is visible through the sclerite.

The outline of both the sclerites of the eighth segment varies somewhat both in *Cl. columbarius* (text-figs. 5 and 6) and *Cl. foedus* Stål. (text-figs. 7 and 8). It will be noticed, however, from the figures, that the left side of the eighth



*Clinocoris columbarius* ♀.

tergite is more angulate in *columbarius* than in *foedus*, and that the penis of *foedus* is very distinctly recurved at the apex, which is not the case in *columbarius*.

The apex of the seventh sternite in the male is more concave than that of the preceding sternites, to allow a freer movement of the sexually modified eighth sternite, which it but slightly overlaps.

In the female, as already mentioned, sexual modification has extended to the seventh as well as to the eighth sternite, though the seventh and eighth tergites are apparently normal. The structure of the seventh sternite is very remarkable, and apparently similar in all the *Cimicidae* (= *Clinocoridae*). When viewed from below, in a normal condition, it is shaped like the roof of a house. It consists of six pieces (text-fig. 9).

The two lateral sclerites bear the stigmata; they are triangular in shape (*i.e.* narrowed apically). These two sclerites are well chitinised except at their edges, which are transparent, and are united with the tergite. The bristles on these portions are of types 2, 3, and 4.

The next two sclerites, which we propose to call the admedian, are rounded at the apex, which is membranous, though elsewhere they are chitinised, and their lateral margins bear on their surface an elongate incassation. The two admedian plates are much nearer together at their base than distally, their inner margins being distinctly divergent. In the gap thus formed are another pair of sclerites whose inner margins are straight, while the outer margins are nearly evenly curved. These median flaps (MF.) project from the dorsal side (*i.e.* inner surface) of the admedian plates, to which they are joined proximally where the dotted outline is double in the figure. In an unmounted example these two plates appear like a dark elliptical ring showing through the chitin of the admedian plates of the seventh sternite.

The admedian sclerites are placed towards one another in roof shape, the segment being centrally convex. The median flaps are densely covered with hairs of type 1, the hairs on the admedian plates also belonging to this type. The sides which the two median flaps turn towards each other are not sharp edges, as would appear to be the case when viewed from beneath. The two edges are, in fact, turned dorsad, so that two narrow longitudinal surfaces are formed, which constitute the right and left walls of the channel situated between the two median flaps. In this channel the genital opening is situated.

The division into six sclerites is repeated to some extent in the eighth sternite. The homology of these will be most apparent if the central portions be discussed first and the more peripheral portions later. Above the admedian sclerites of the seventh sternite, and showing through them in a ventral view, are two strongly chitinised rods which appear to terminate distally as such, but in reality each is continued by the inner edge of a small membranous lobe U (text-fig. 9). These lobes are connected with the eighth sternite and correspond to the median flaps of the seventh sternite, there being a pair of them, as is also the case with that sternite. These lobes of the eighth sternite do not bear bristles. On each side of the median gap are two square lobes covered with many bristles of the first type. These lobes correspond to the admedian plates of the seventh sternite; each is, however, completely fused, both proximally and laterally, with the adjoining lateral sclerite of the eighth sternite, which adjoins and is fused with the eighth tergite. The figure here reproduced is taken from a dissection, and consequently the segments are much flattened out, with the result that the central gap in the seventh and eighth sternites is larger than in a state of nature.

The ninth segment in both sexes is a single chitinised ring bearing hairs of the third type. The tenth segment consists of two feebly chitinised plates between which the anus opens, each plate bearing a row of very minute hairs.

---

## NEUE APIONEN DES NORD- UND SÜDAMERIKANISCHEN FAUNENGEBIETES.

BESCHRIEBEN VON HANS WAGNER, DAHLEM BERLIN.

AUS den, an Apionen schier unerschöpflich reichen (Gebieten Nord- und namentlich Süd-Amerikas, liegt mir wieder eine Anzahl neuer Arten vor, von welchen ein grosser Teil von Herrn Germain in Bolivien, viele von Herrn K. Fiebrig in der Paraguay, die beiden neuen Species aus Californien und Arizona von Herrn W. Nauenmacher gesammelt wurden; wenige Exemplare, die ich s. Zt. von der Firma Dr. O. Staudinger und A. Bang-Haas erwarb, wurden von mir unbekannter Seite im Gebiete des Amazonas, Fonteboa, erbeutet: es ist bemerkenswert, dass einige Arten von letzterer Provenienz mit denjenigen aus Bolivien identisch sind, wie ebenso das Vorkommen einiger Arten, die bisher nur aus den Gebieten Centralamerikas nachgewiesen waren, in Bolivien (von Germain gesammelt), von Interesse ist, da die meisten Species des central- und südamerikanischen Faunengebietes im Allgemeinen doch relativ eng umgrenzte Territorien zu bewohnen scheinen. Von den paraguayischen Arten wurden einige von Herrn Raymoser (in Mödling bei Wien) auch in Argentinien gesammelt und die Belege befinden sich im k.k. naturhistorischen Hof-Museum in Wien. Sofern nicht anders angegeben, befinden sich die Typen der nachstehend beschriebenen neuen Arten im Material des Deutschen Entomologischen Museums zu Dahlem-Berlin.

### I. NEUE ARTEN.

- |   |  |
|---|--|
| 1. <i>Apion nauenmacheri</i> .<br>2. „ <i>haplopus</i> .<br>3. „ ( <i>Bothryopteron</i> ) <i>foveipenne</i> .<br>4. „ ( <i>Stenapion</i> ) <i>germaini</i> .<br>5. „ ( „ ) <i>stenotherium</i> .<br>6. „ ( „ ) <i>otidoccephaloides</i> .<br>7. „ ( <i>Coelopterapion</i> ) <i>fiebrigi</i> .<br>8. „ ( <i>Trichapion</i> ) <i>longicornis</i> .<br>9. „ <i>ancistrotarse</i> . | 10. <i>Apion cyanoptera</i><br>11. „ <i>ochroptera</i> .<br>12. „ ( <i>Trichapion</i> ) <i>acanthopus</i> .<br>13. „ <i>brachyrhynchum</i> .<br>14. „ <i>callanguum</i> .<br>15. „ <i>dentitarse</i> .<br>16. „ <i>brachypus</i> .<br>17. „ <i>tomentiferum</i> .<br>18. „ ( <i>Stenapion</i> ) <i>yatahyuum</i> . |
|---|--|

#### 1. *Apion nauenmacheri* nov. spec. (Text-fig. 1, 2).

Eine durch die ziemlich dichte, lange, sehr feine, schrag abstehende Behaarung sehr ausgezeichnete Art des nord-amerikanischen Faunengebietes; habituell an ein *Heterapion* erinnernd.

Körper pechschwarz, die Beine mit Ausnahme der pechschwarzen Tarsen rötlichpechbraun; ziemlich stark glänzend. Der Kopf und Rüssel sind kurz behaart, das Halsschild ist mit längeren, nach vorne gerichteten, die Flügeldecken sind mit langen, sehr feinen, schräg nach hinten abstehenden, goldglänzenden Härchen ziemlich dicht besetzt.

Kopf mit den relativ kleinen, grob facettierten, schwach gewölbten und kaum vortretenden Augen etwa  $1\frac{2}{3}$ -mal so breit als lang, nach vorne schwach verengt, die

Stirne so breit als der Rüssel an der Fühlerinsektion, wie der übrige Kopf grob, dicht und tief punktiert, die Zwischenräume etwas längsrunzelig.

Der Rüssel ist etwas länger als der Halsschild, ziemlich kräftig gebaut, nahezu cylindrisch, nur an der Fühlerinsektion schwach angeschwollen, leicht gebogen; im Basalteil grob, dicht und etwas runzelig punktiert, nach vorne allmählig feiner und weniger dicht punktiert; die Härchen stehen im Basalteil ziemlich dicht und sind gekräuselt, im Apicalteil sind sie sehr kurz und stehen viel spärlicher.

Fühler kräftig, etwas vor der Mitte des Rüssels eingelenkt; Schaft  $1\frac{1}{2}$ -mal so lang als das 1. Geisselglied, dieses etwas länger als breit, merklich stärker als die folgenden Glieder, diese gegen das Ende hin nur wenig an Länge abnehmend, das 2. Glied noch merklich länger als breit, das 7. rundlich. Die grosse, breit-spindelförmige Keule deutlich abgesetzt. Die ganze Geissel ist mit gekräuselten Wimperhärchen besetzt.

Halsschild so lang als breit, am gerade abgestutzten Hinterrande nur wenig

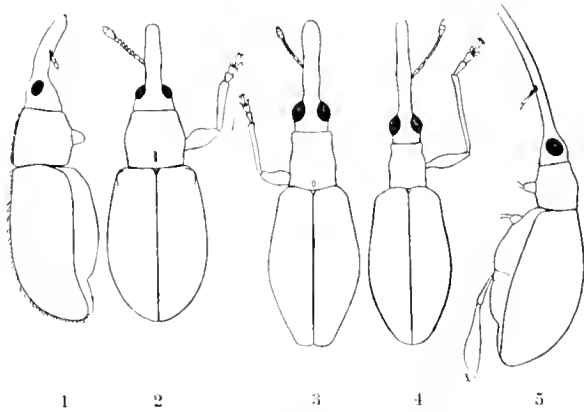


FIG. 1.—*Apion nuenmacheri* (♂!).

- " 2.— " "  
 " 3.— " *germaini* ♂.  
 " 4.— " *yatahyanum* ♂.  
 " 5.— " " ♀.

breiter als am Vorderrande, die Hinterecken in ihrer Anlage sehr schwach stumpfwinkelig, die Seiten von diesen nach vorne sehr sanft gerundet erweitert etwa in der Mitte am breitesten, von da nach vorne schwach und sehr sanft ausgeschweift verengt; grob und tief punktiert, die Punkte an den Seiten dicht, ihre Zwischenräume schmaler als die Punkte, etwas gerunzelt, auf der Scheibe sind die Zwischenräume fast so breit als die Punkte, eben und sehr fein chagriniert; vor dem Schildchen befindet sich ein scharfes Grübchen, vor welchem bis nahe zum Vorderrand ein schmales Streifen unpunktirt bleibt.

Flügeldecken langlich-oval, zwischen den deutlich entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, von da nach hinten sehr schwach und gleichmässig gerundet erweitert, in der Mitte am breitesten, von da nach hinten wieder gleichmässig zugewandt; am Rücken flach, nach hinten wenig steil abfallend; fein und sehr undeutlich punktiert-gestreift, die Streifen nach hinten fast erlöschend, die Spalten breit und sehr schwach gewölbt, in der Mitte mit einer Reihe ziemlich starker Pünktchen besetzt, im Grunde fast glatt. Schildchen klein,

rundlich, ungefurcht. Die Seiten der Brust und die zwei ersten Abdominalsegmente ziemlich spärlich mit größeren Punkten besetzt, das letzte Segment ziemlich stark und dicht punktiert, mit einem gelblichbraunen, dichten, nach aussen gerichteten Haarbüschelchen.

Beine ziemlich kurz und plump, die Tibien mit feinen, bräunlichen Härchen besetzt; 1. und 2. Tarsenglied fast gleich lang, das 2. etwas breiter als lang, das 3. ziemlich schmal gelappt, die Lappen breit gespreizt; das Klauenglied doppelt so lang als das 2. Glied, die Klauen ungezähnt.

Long. (s.r.): 2,6 mm.

Das eine mir vorgelegene Exemplar, welches von Herrn F. W. Nauenmacher in Californien: Del Norte, erbetet wurde, halte ich für ein Männchen. Diese angezeichnete Species sei ihrem Entdecker freundlichst dediziert.

## 2. *Apion haplopus* nov. spec. (Text-fig. 16, 17).

Der gezähnten Klauen und unbewehrten Tibien wegen, in Falls 4. Gruppe der nordamerikanischen Apionen gehörig; der Tabelle dieser Gruppe folgend, kommt man mit vorliegender Art zu *Ap. ventricosum* Lec., da sie wie dieses im männlichen Geschlecht keinerlei Sexualauszeichnungen aufweist, die Stirne schmaler als die Rüsselspitze ist, etc.; von *ventricosum* Lec. jedoch durch die geringere Körpergrösse, den Mangel eines Metallglanzes auf den Flügeldecken, vor allem aber durch den kürzeren und kräftigeren Rüssel und die eben solchen Fühler, die kürzeren Flügeldecken, etc. verschieden.

Körper pechschwarz, die Flügeldecken mit einem rötlichen Schimmer, nahezu matt; mit feinen, weisslichen Härchen sparsam bekleidet.

Kopf mit den flachgewölbten, nicht vortretenden Augen merklich breiter als lang, die flache Stirne schmaler als die Rüsselspitze, von zwei ziemlich flachen, wie der übrige Kopf ziemlich undeutlich punktierten Furchen durchzogen, im Grunde fein runzelig chagriniert.

Rüssel beim ♂ so lang als der Halsschild und Kopf bis zum hinteren Augenrand gemessen zusammen, beim ♀ sehr wenig länger, auch nur um geringes dünner; relativ kräftig gebaut, wenig gebogen, fast cylindrisch, nur an der Fühlerinsertion fast merklich erweitert; bis nahe zur Spitze mit mässig feinen Punkten dicht besetzt, dazwischen beim ♂ bis nahe zur Spitze, beim ♀ in den beiden basalen Dritteln im Grunde fein runzelig chagriniert, matt, beim ♀ die Spitze etwas glänzend.

Fühler nahe der Basis, nicht ganz um den halben Querdurchmesser der Augen vor diesen eingelenkt, zieml. kurz und kräftig; Schaft nur wenig länger als das erste Geisselglied, dieses kann doppelt so lang als breit, stärker als die folgenden Glieder, diese eng aneinander gefügt, das 2. Glied wenig länger als breit, die übrigen etwas kürzer werdend, das letzte schwach quer; die eiförmige Keule deutlich abgesetzt.

Halsschild etwas breiter als lang, von den fast rechtwinkeligen Hinterecken nach vorne äusserst schwach ausgeschweift und sehr wenig verengt, seitlich gesehen fast gerade; mit relativ groben, doch flachen Punkten dicht besetzt, die Zwischenräume schmaler als die Punkte, wie diese im Grunde sehr fein chagriniert; vor den Schildchen mit einem kurzen, undeutlichen Basalgrübchen.

Flügeldecken ziemlich kurz oval, zwischen den deutlich entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, an den Seiten leicht gerundet

erweitert, etwas hinter der Mitte am breitesten, gegen den Apex stumpf zugerundet; mässig stark gewölbt; stark punktiert-gestreift, die ebenen oder leicht gewölbten Zwischenräume etwas breiter als die Punktstreifen, fein runzelig chagriniert, dazwischen mit einzelnen, feinen Pünktchen besetzt.

Schildchen länglich und deutlich gefurcht, im übrigen gleichfalls fein runzelig chagriniert.

Die Seiten der Brust und das Abdomen ziemlich stark und mässig dicht punktiert.

Beine ziemlich kurz und nicht kräftig; das 1. Tarsenglied etwas länger als das 2., dieses so lang als breit, das Klauenglied überragt das 3. Glied um etwas mehr als um seine Hälfte; die Klauen fein, deutlich gezähnt. Beim ♂ sind alle Beine einfach.

Long. (s.r.): 1,4 mm.

Ein Pärchen, von Herrn W. F. Nunenmacher in Arizona: Benson, Cochise-Co. am 4. x. 06. gesammelt, lag der Beschreibung zu Grunde.

### 3. *Apion* (*Bothryopteron*) *foveipenne* nov. spec. (Text-fig. 6, 7).

Unter den bisher bekannten Arten dieses, durch die Flügeldeckenbildung sehr ausgezeichneten Subgenus zufolge der Färbung sehr auffallend.

Körper tief schwarz, die Flügeldecken bläulich, die Coxen, Trochanteren und Beine mit Ausnahme der pechbraunen Tarsen, rötlichgelb.

Kopf, Halsschild und Flügeldecken mit weissen Borstenhärchen wenig dicht, die Seiten der Vorder-, Mittel-, und Hinterbrust sehr dicht bekleidet.

Kopf mit den grossen, flachgewölbten und wenig vortretenden Augen und dem ziemlich stark verlängerten Scheitel etwas länger als breit; Stirne kaum halb so breit als der Rüssel an der Basis, von zwei flachen Furchen durchzogen, im Grunde glatt, zwischen dem Augenhinterrand und dem fein querverrieften Scheitel mit ziemlich starken, doch flach eingestochenen Punkten mässig dicht besetzt.

Rüssel beim ♀ etwa  $1\frac{1}{2}$ -mal so lang als Kopf und Halsschild zusammen, ziemlich stark gebogen, von der Basis bis zur Fühlerinsektion nahezu cylindrisch, vor letzterer etwas verjüngt abgesetzt und bis zur Spitze wieder **sehr wenig** verbreitert; von der Basis bis zur Fühlerinsektion mit wenig starken, in Reihen angeordneten Punkten besetzt, die Zwischenräume sehr schwach kielartig erhoben, glatt und glänzend, von der Fühlerinsektion bis zur Spitz mit merklich feineren Pünktchen weniger regelmässig besetzt, im Grunde gleichfalls glatt und glänzend.

Fühler ziemlich kräftig, um den doppelten Längsdurchmesser der Augen vor diesen eingelenkt; Schaft so lang als die zwei ersten Geisselglieder zusammen; 1. und 2. Glied gleich lang, das 1. nur wenig stärker als das 2., dieses  $1\frac{1}{2}$ -mal so lang als breit, das 3.-7. Glied an Länge nur wenig abnehmend, das 3. etwa  $1\frac{1}{3}$ -mal so lang als breit, das 7. so lang als breit; die lang spindelförmige Keule deutlich gegliedert, schwach abgesetzt.

Halsschild trapezförmig, zwischen den spitzwinkeligen Hinterecken  $1\frac{1}{3}$ -mal so breit als in der Mittellinie lang, von diesen nach vorne ziemlich stark, fast geradlinig verengt, hinter dem Vorderrande sehr schwach eingezogen, daselbst etwas mehr als halb so breit als an der zweibuchtigen Basis; seitlich gesehen sehr schwach gewölbt; mit äusserst feinen, die weissen Borstenhärchen tragenden Pünktchen ziemlich sparsam besetzt, die Zwischenräume ausserordentlich fein chagriniert, glänzend; ein Basalstrichel fehlt,



Flügeldecken etwa  $1\frac{1}{2}$ -mal so lang als breit, zwischen den sehr kräftig entwickelten Schulterbeulen reichlich doppelt so breit als der Halsschildvorderrand, von diesen gegen die Mitte schwach erweitert, etwas **vor** der Mitte am breitesten, von da nach hinten fast geradlinig verengt, am Apex flach bogenförmig abgestutzt; seitlich gesehen ziemlich hoch gewölbt, die Wölbungslinie etwas vor der Mitte am höchsten; fein gestreift, die Punkte in den Streifen undeutlich, ein weisses Borstenhärechen tragend, die breiten, flachen Zwischenräume mit einer mehr oder minder regelmässigen Reihe feiner, ebenfalls weisse Borstenhärechen tragender Pünktchen besetzt, im übrigen glatt und glänzend. Der Flügeldeckenapex zeigt die, für dieses Subgen. charakteristische Bildung, indem sich daselbst der 1. mit dem 9., der 2. mit dem 8. Punktstreifen verbinden, und sehr tief, **grübchenartig** eingedrückt sind, während der 1. und 3. Zwischenraum davor stark **wulstig erhaben** sind. Die Seiten der Brust sind dicht weiss behaart; das Schildchen ist ziemlich klein, dreieckig, ungerichtet.

Beine lang und ziemlich kräftig, das erste Tarsenglied fast  $1\frac{1}{2}$ -mal so lang als das 2., dieses merklich länger als breit, das Klauenglied überragt das schmalgelappte 3. Glied um seine Hälfte, die Klauen sind ziemlich kräftig, stumpf gezähnt.

Long (s.r.) : 3,1 mm.

Ein weibliches Exemplar, von Germain in Bolivien: Yungas gesammelt. Im Material des Deutsch. Entomol. Museum.

#### 4. *Apion* (*Stenapion*) **germaini** nov. spec. (Text-fig. 3).

Sehr ausgezeichnet durch den, namentlich beim ♂ ähnlich wie bei *Apion pachyrhynchum* Gemm. im Apicalteil verbreiterten Rüssel und durch den wie bei den Vertretern des Subgen. *Bothryopteron* gebildeten Flügeldeckenapex.

Körper pechbraun, der Flügeldeckenapex und die Naht gegen das Ende hin rötlich schimmernd, die Beine mit Ausnahme der Coxen und Trochanteren bräunlichgelb, die Klauen schwärzlich; bisweilen sind die Vorderschenkel mehr oder minder angedunkelt.

Der Rüssel ist beim ♂ bis nahe zur Spitze, beim ♀ in der Basalpartie fein behaart, Kopf, Halsschild und Flügeldecken sind mit feinen, weisslichen Härchen, welche im basalen Drittel der Flügeldecken auf den vier ersten Spatien etwas gröber sind und dichter stehen, spärlich besetzt.

Kopf etwas breiter als lang, die Augen beim ♂ etwas grösser, stärker gewölbt und mehr vortretend als beim ♀, die Stirne ziemlich breit, flach gewölbt, mit einem sehr feinen Mittelkielehen und zwei ebensolchen Kielehen beiderseits am Innenrand der Augen, im Grunde mikroskopisch fein chagmriert, dazwischen mit einzelnen äusserst feinen Pünktchen besetzt; der glänzend glatte Scheitel ist durch eine schwache Querdepression vom Kopfe gesondert.

Rüssel beim ♂ um geringes kürzer, beim ♀ um wenig länger als Kopf und Halsschild zusammen, ziemlich kräftig gebaut, fast gerade; ♂: an der Basis am schmalsten, an der Fühlerinsertion kaum bemerkbar verdickt, von da zur Spitze ziemlich stark keulig verdickt; bei seitlicher Ansicht erscheint der Rüssel auf der oberen Kante gleichfalls verdickt, auf der unteren Kante gerade. ♀: Rüssel von der Basis bis zur Fühlerinsertion äusserst schwach verdickt, vor derselben schwach eingeeengt, gegen die Spitze hin merklich schwächer als beim ♂ verdickt; bei seitlicher Ansicht ist die Verdickung gleichfalls schwächer als beim ♂, doch

auch auf der unteren Kante deutlich wahrnehmbar. Der Rüssel ist in beiden Geschlechtern bis nahe zur Spitze fein und ziemlich dicht und etwas runzelig punktiert.

Fühler ziemlich schlank, beim ♂ nahezu in der Mitte, beim ♀ etwas vor derselben eingelenkt, Geißel und Keule sind ziemlich dicht und lang bewimpert. Schaft etwas länger als das 1. Geißelglied, dieses 2-mal so lang als breit, merklich breiter als die folgenden Glieder; 2. Glied reichlich  $1\frac{1}{2}$ -mal so lang als breit, die folgenden Glieder allmählig kürzer werdend, das 3. noch merklich länger als breit, das 7. rundlich; Keule spindelförmig, lose gegliedert, deutlich abgesetzt.

Halsschild etwas länger als breit, fast cylindrisch, am Vorderrande und an der Basis gleich breit, vor der Basis und hinter dem Vorderrande schwach eingezogen; sehr fein und spärlich punktuert, im Grunde mikroskopisch fein chagriniert, am Basalrand mit einer Reihe etwas größerer Pünktchen besetzt, vor dem Schildchen mit einem mehr oder minder deutlichen, flachen Grübchen.

Flügeldecken zwischen den wohl entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, von diesen gegen die Mitte hin ziemlich stark erweitert. in der Mitte am breitesten, von da gegen den Apex wieder ziemlich stark verengt, daselbst etwas schmaler als zwischen den Schulterbeulen, fast gerade abgestutzt; seitlich gesehen ziemlich stark gewölbt, die Wölbungslinie gleichmässig, in der Mitte am höchsten; ziemlich stark punktiert-gestreift, die Zwischenräume etwas breiter als die Punktstreifen, schwach concav, mit einer Reihe sehr flacher, fast grübchenförmiger Punkte besetzt. Der erste und zweite Punktstreifen sind an der Spitze stark eingedrückt, der zweite verbindet sich daselbst mit einer kurzen, tiefen Grube, die am Ende des 8. Zwischenraumes sich befindet; das Spatium zwischen dem 1. und 2. Punktstreifen ist etwas beulig aufgetrieben. Schildchen klein, ungefurcht.

Beine ziemlich lang und schlank; das 1. Tarsenglied etwas schmaler als das 2., doppelt so lang als breit, das 2. so lang als breit, das 3. schmal gelappt, das Klanenglied überragt das 3. weniger als um seine Hälfte; die Klauen ziemlich scharf, schwach gezähnt.

Long. (s.r.): 2,5-2,7 mm.

Von dieser ausgezeichneten Art lagen mir 1 ♂ und 3 ♀♀, von welchen mir ein ♀ freundlichst überlassen wurde, von Herrn Germain in Bolivien; Yungas, gesammelt, zur Beschreibung vor.

##### 5. *Apion* (*Stenapion*) *stenotherium* nov. spec. (Text-fig. 11).

Gleichfalls eine sehr ausgezeichnete Art aus diesem Subgenus, in die Verwandtschaft des *Ap. constricticollis* Sharp gehörig, aber doppelt so lang bei nur  $1\frac{1}{2}$ -mal so breiten Flügeldecken; durch die Sculptur der letzteren, den anderen Rüsselbau, etc., sehr verschieden.

Körper tief-schwarz, ziemlich glänzend, mit ziemlich kurzen, weissen Härchen auf dem Kopf, Rüssel, Halsschild, den Flügeldecken, Beinen und am Abdomen ziemlich spärlich, an den Seiten der Mittel- und Hinterbrust dicht bekleidet.

Kopf mit sehr grossen, gewölbten und ziemlich stark vorspringenden Augen, etwas wulstig verdicktem und durch eine ziemlich starke Querdepression absondertem Scheitel, mit leicht längsgewölbter Stirne, die etwa halb so breit als der Rüssel, von drei mehr oder minder deutlichen Furchen durchzogen, im Grunde

mikroskopisch fein chagriniert und dazwischen wie der übrige Kopf—mit Ausnahme des fein quergebriefften Scheitels—mit feinen Pünktchen spärlich besetzt ist.

Rüssel beim ♂ etwas länger als der Halsschild, beim ♀ so lang als Kopf und Halsschild zusammen, etwas dünner als beim ♂, in beiden Geschlechtern fast gerade, nur gegen die Spitze hin etwas nach abwärts gebogen, cylindrisch, nur an der Fühlerinserktion sehr schwach (beim ♀ etwas deutlicher als beim ♂) erweitert, davor sehr leicht eingengt, an der Spitze fast gerade abgestutzt; beim ♂ bis nahe zur Spitze, beim ♀ in den beiden basalen Dritteln ziemlich stark längsrunzelig punktiert, im Grunde fein runzelig chagriniert, matt, gegen die Spitze hin feiner punktiert, im Grunde glatter, glänzend.

Fühler ziemlich lang und fein, beim ♂ etwas vor der Mitte, beim ♀ im basalen Drittel des Rüssels eingelenkt, fein bewimpert. Schaft rötlichpechbraun, etwa  $1\frac{1}{2}$ -mal so lang als das I. Geißelglied, dieses etwas kürzer als die zwei folgenden Glieder zusammen, aber am Ende viel kräftiger, das 2.-5. Glied fast gleich lang,

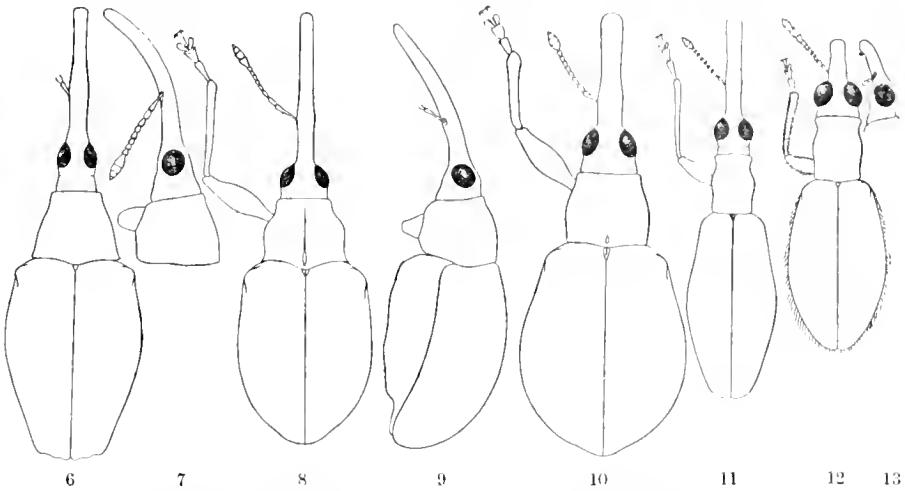


FIG. 6.—*Apion foveipenne* ♀.  
 „ 7.— „ „ „  
 „ 8.— „ *longicorne* ♀.  
 „ 9.— „ „ „

FIG. 10.—*Apion cytaoptercum* ♀.  
 „ 11.— „ *stenotherium* ♀.  
 „ 12.— „ *otidoccephaloides* ♂.  
 „ 13.— „ „ „

etwa  $1\frac{1}{2}$ -mal so lang als breit, das 6. und 7. etwas kürzer und stärker, doch deutlich länger als breit; die Keule lang-eiförmig, deutlich abgesetzt.

Halsschild etwa  $1\frac{1}{4}$ -mal so lang als breit, am Vorderrand und an der Basis ziemlich gleich breit, hinter ersterem etwas stärker als vor letzterer eingezogen, die Einschnürungen kräftig, die Seiten dazwischen ziemlich stark gerundet, in der Mitte am breitesten, daselbst die Breite des Vorderrandes etwas überragend; seitlich gesehen leicht gewölbt, hinter dem Vorderrand und vor der Basis schwach eingedrückt; auf der Scheibe mit sehr flachen und feinen Pünktchen spärlich besetzt, fast unpunktirt erscheinend, vor der Basis etwas dichter und stärker punktiert, im Grunde mikroskopisch fein chagriniert, etwas fettig glänzend, ohne Basalgrübchen.

Flügeldecken langgestreckt und schmal, zwischen den sehr kräftigen Schulterbeulen reichlich breiter als die Halsschildbasis, von diesen nach hinten—sehr sauft

ausgeschweift—mässig stark erweitert, etwa in der Mitte am breitesten, von da nach hinten sehr sanft gerundet verengt, am ziemlich stark abgestumpften Apex etwas schmaler als zwischen den Schulterbenen, vor der Spitze deutlich seitlich eingedrückt, der Nahtwinkel einspringend; nicht stark, undeutlich punktiert-gestreift, die leicht gewölbten Spalten gut zweimal so breit als die Punktstreifen, mit einer Reihe feiner, die Härchen tragender Pünktchen besetzt; der 7. Zwischenraum ist am Apex stark grubenartig eingedrückt, der 2. Zwischenraum wulstig erhöht; das Schildchen ist sehr klein, ungefurcht, von einer scharfen, dreieckigen Furche umschlossen. Die Mittelbrust ist an den Seiten fein und dicht punktiert, in der Mitte glatt, ebenso die Hinterbrust, das Abdomen ist fein runzelig chagriniert, dazwischen fein punktiert.

Beine sehr lang und schlank; 1. Tarsenglied etwa 3-mal so lang als breit, schmaler als das 2., dieses reichlich länger als breit, die Lappen des 3. Gliedes kurz und schmal, kaum halb so lang als das 2., das Klauenglied überragt das 3. um dessen Länge, die Klauen sind ziemlich kurz, scharf gezähnt.

Long. (s.r.): 3—3,2 mm.

Diese interessante Species lag mir in drei Exemplaren zur Beschreibung vor; ein Männchen aus Bolivien: Yungas (Germain) im Material des D.E.M., ein Weibchen aus Peru: Vilcanota, in meiner Collection, und ein 2. Weibchen aus Marcapata, im Material meines verehrten Collegen, Herrn Beguin-Billecoq.

#### 6. *Apion* (*Stenapion*) *otidocephaloides* nov. spec. (Text-fig. 12, 13).

Habituell einem kleinen Otidocephalus ähnlich; sehr ausgezeichnet durch die feine, abstehende, weissliche Behaarung.

Körper tiefschwarz, mit ziemlich starkem Glasglanz, die Schienen und Tarsen pechschwarz; der ganze Körper mit sehr feinen, doch ziemlich langen, abstehenden, weisslichen Härchen wenig dicht besetzt.

Kopf mit sehr grossen, stark gewölbten und stark vortretenden, sehr grob facettierten Augen, mit diesen reichlich breiter als lang, hinter denselben durch eine schwache Querdepression vom fein querverrieften Scheitel getrennt. Die Stirne halb so breit als der Rüssel an der Spitze, ziemlich stark längsgewölbt, sehr fein und ziemlich spärlich punktuert, die Punkte tragen feine, nach vorne gerichtete Härchen.

Rüssel um wenig länger als der Kopf, fast cylindrisch, an der Fühlerinserion kaum bemerkbar verdickt, vor derselben sehr schwach doch deutlich eingengt, am Rücken vor der Basis nahezu glatt, nur an den Seiten, wie zwischen der Fühlerinserion und der Spitze, mit feinen Pünktchen mässig dicht besetzt; seitlich gesehen ist der Rüssel bis auf die etwas nach abwärts gerichtete Spitze fast gerade, unterseits kurz vor der Spitze befindet sich ein kleines, nach vorne gerichtetes Haarbüschelchen.

Fühler um etwas weniger als um den Querdurchmesser der Augen vor diesen eingelenkt, ziemlich lang und kräftig, das letzte Geisselglied und das erste Keulenglied von ungewöhnlichem Bau; Schaft doppelt so lang als das 1. Geisselglied, dieses etwa  $1\frac{1}{3}$ -mal so lang als breit, etwas breiter als die folgenden Glieder; das 2.—5. Glied ziemlich gleich lang, aber allmählig etwas stärker werdend, das 2. noch deutlich länger als breit, das 6. etwas stärker als das 5., rundlich, das 7. fast doppelt so gross als das 6., gleichfalls rundlich; das 1. Keulenglied vom 2. scharf gesondert, etwas länger als breit, das 2. und 3. Keulenglied zusammen

machen den Eindruck einer kurz-eiförmigen Keule. Die ganze Geißel und Keule sind fein gelblich bewimpert.

Halsschild etwa  $1\frac{1}{3}$ -mal so lang als breit, an der Basis und am Vorderrand fast gleich breit (am Vorderrand um ganz geringes breiter als an der Basis), vor den in ihrer Anlage rechtwinkeligen Hinterecken sehr schwach eingeeengt, dann gegen die Mitte sanft gerundet erweitert, in der Mitte am breitesten, zwischen dieser und dem Vorderrand ziemlich kräftig eingeschnürt; auf der Scheibe sehr fein und sehr sparsam punktiert, vor der schwach zweibuchtigen Basis etwas gröber, merklich dichter und etwas rauher punktiert, mit einem flachen, undeutlichen Basalgrübchen.

Flügeldecken lang und schmal, zwischen den kräftig entwickelten Schulterbeulen um die Hälfte breiter als die Halsschildbasis, von hier gegen die Mitte schwach erweitert, daselbst am breitesten, von da nach hinten schwach verengt, der Apex etwas abgestumpft, die Naht einspringend; seitlich gesehen mässig gewölbt; sehr fein, nahezu unpunktirt gestreift, die vollkommen ebenen Zwischenräume sehr breit, mit einer Reihe, die feinen, abstehenden Härchen tragenden Pünktchen besetzt, im Grunde glatt und glänzend. Schildchen ziemlich klein, rundlich, ungefurcht.

Die Mittel- und Hinterbrust und das Abdomen fein und wenig dicht punktiert, die Punkte ebenfalls feine, etwas abstehende Härchen tragend, der Grund glatt.

Beine mässig lang und ziemlich kräftig, die Schienen etwas dichter als die Schenkel und namentlich gegen die Spitze hin mehr ockergelb behaart; 1. Tarsenglied schmaler als das 2., doppelt so lang als breit, das 2. trapezoid, kaum länger als breit, die Lappen des 3. Gliedes ziemlich schmal, das Klauenglied nicht ganz doppelt so lang als das 3., die Klauen ziemlich kräftig, stumpf gezähnt.

Long. (s.r.): 2,7 mm.

Von dieser ausserordentlich markanten Art lag mir nur ein Exemplar, an welchem sich das Geschlecht schwer bestimmen lässt, von Germain in Bolivien: Yungas, gesammelt, zur Beschreibung vor.

### 7. *Apion* (*Coelopteration*) *fiebrigi* nov. spec. (Text-fig. 14, 14A, 15).

In der Form zwischen *Apion fryi* und *cionoides* m. die Mitte haltend, von beiden Arten namentlich durch den ganz anders gebauten Rüssel leicht zu trennen.

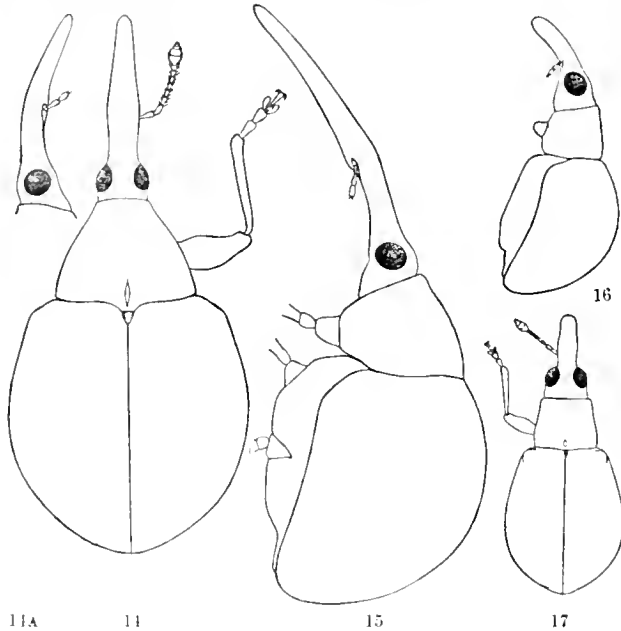
Körper pechbraun, matt, die Fühler an der Wurzel und die ganzen Beine mit Ausnahme der schwärzlichen Klauen und angedunkelten Spitzen der Tibien und Tarsen, rötlichgelbbraun, die Flügeldecken bisweilen mit einem helleren, rötlich brannen Schimmer, der ganze Körper mit ziemlich kurzen, weisslichen Borstenhärchen bei reinen Exemplaren mässig dicht besetzt.

Rüssel beim ♂ etwa um die Kopflänge länger als Kopf und Halsschild zusammen, beim ♀  $1\frac{1}{2}$ -mal so lang als Kopf und Halsschild zusammen; in beiden Geschlechtern sehr wenig gebogen, die Biegung liegt an der Fühlerinsertionsstelle; von oben gesehen von der Basis zur Fühlerinsertion sehr schwach verbreitert, daselbst beim ♂ etwas deutlicher als beim ♀ winkelig verdickt, von da zur Spitze beim ♂ stärker als beim ♀ verjüngt; seitlich gesehen von der Basis bis nahe zur Fühlerinsertion leicht verengt, an dieser nach unten leicht angeschwollen, von da zur Spitze beim ♀ etwas schwächer als beim ♂ verjüngt; bei beiden Geschlechtern ist der Rüssel am Rücken, namentlich über der Fühlerinsertion, etwas flachgedrückt, in der Mitte und an den Seiten von der Basis bis nahe zur Spitze sehr fein, doch

deutlich gekielt, zwischen den Kielchen mit, in ziemlich dichten Reihen gestellten, an der Basis mässig starken, gegen die Spitze hin feiner werdenden Punkten besetzt, im Grunde mikroskopisch fein chagriniert, schwach glänzend; beim ♂ tragen die Punkte bis nahe zur Spitze, beim ♀ nur diejenigen der Basalpartie kurze, weisse Borstenhärchen.

Die Fühler sind ziemlich kräftig und nicht lang, beim ♀ im basalen Drittel, beim ♂ etwas vor der Mitte des Rüssels eingelenkt; Schaft etwa  $1\frac{1}{2}$ -mal so lang als das 1. Geisselglied, dieses kaum länger aber merklich stärker als das 2., das 2. bis 4. Glied gleich lang, doppelt so lang als breit, das 5. und 6. etwa  $1\frac{1}{3}$ -mal so lang als breit, das 7. rundlich; die Keule breit-eiförmig, zugespitzt, scharf abgesetzt.

Kopf verhältnismässig klein, etwas breiter als lang, beim ♀ meist nach vorne



11A      14  
FIG. 14.—*Apion fiebrigi* ♂.  
" 14A.— " " " "  
" 15.— " " ♀.

16  
FIG. 16.—*Apion haplopus* ♂.  
" 17.— " " "

etwas verengt, die Augen flach, nicht vortretend, ziemlich klein; die Stirne sehr schmal, mit einer glatten Mittelfurche, die beiderseits von einem mehr oder minder deutlichen, dem Innenrand der Augen folgenden Wülstchen begrenzt wird, auf diesen wie der übrige Kopf äusserst fein und sparsam punktiert; der fein quergebiefte Scheitel ist durch eine schwache Querdepression vom Kopf getrennt.

Der Halsschild ist an der Basis  $1\frac{1}{3}$ -mal so breit als in der Mittellinie lang, von den in ihrer Anlage spitzwinkeligen Hinterecken an den Seiten nach vorne stark verengt, die Seiten sehr schwach gerundet, hinter dem Vorderrand und vor der Basis kaum bemerkbar eingezogen, an ersterem fast nur ein Drittel so breit als an der stark 2. buchtigen Basis; stark und ziemlich dicht punktiert, die Zwischenräume etwa so gross wie die Punkte; vor dem Schildchen mit einem scharfen Basalgrübchen.

Flügeldecken in der Form genau wie bei *frugi* gebildet, noch etwas größer punktiert-gestreift, die Zwischerräume nicht oder nur wenig breiter als die Punktstreifen, gewölbt, sehr fein runzelig chagriniert und mit einer Reihe, zieml. kurze, weissliche Härchen tragender Pünktchen besetzt. Schildchen ziemlich gross, stumpf dreieckig, ungefurcht, doch in der Mitte mehr oder minder deutlich breit und flach eingedrückt.

Beine mässig lang und relativ schlank; 1. Tarsenglied reichlich 2-mal so lang als breit, schmaler als das 2., dieses kaum  $1\frac{1}{2}$ -mal so lang als breit, das 3. ziemlich breit gelappt, das Klauenglied überragt das 3. um seine Hälfte, die Klauen fein, sehr scharf gezähnt.

Die ganze Unterseite ist ziemlich grob und dicht punktiert.

Long (s.r.): 2,4—2,7 mm.

Von Herrn K. Fiebrig, dem diese ausgezeichnete Art freundlichst gewidmet sei, in kleiner Anzahl in S. Bernardino, Paraguay, gesammelt, im Material des Deutsch. Ent. Museum zu Dahlem, und im k. k. naturhist. Hof-Museum zu Wien.

### 8. *Apion (Trichapion) longicorne* nov. spec. (Text-fig. 8, 9).

Habituell dem *Apion hystriulum* Sharp sehr ähnlich, etwas grösser, durch den breiteren, seitlich mehr gerundeten Halsschild, den im weiblichen Geschlecht noch erheblich längeren und auch kräftigeren Rüssel, die viel längeren Fühler und Beine, durch die viel spärlichere und auch feinere Behaarung, etc., leicht zu unterscheiden.

Körper schwarz, schwach glänzend, mit Ausnahme der dicht behaarten Mittel- und Hinterbrust mit feinen, seidenglänzenden, weisslichen Härchen sparsam besetzt.

Die Augen ziemlich gross, mässig stark gewölbt und etwas vortretend, der Kopf mit diesen reichlich breiter als lang, der kurze Scheitel schwach niedergedrückt, die Stirne nach vorne verschmälert und daselbst deutlich breiter als der Rüssel über der Fühlerinserion, leicht kisseartig gewölbt, mit einer etwas undeutlichen Mittelfurche, im übrigen mit starken doch flachen Punkten dicht besetzt. Der untere Augenrand ist ziemlich lang weiss bewimpert.

Rüssel fast  $1\frac{1}{3}$ -mal so lang als Kopf und Halsschild zusammen, sehr schwach gebogen, fast cylindrisch, nur an der Fühlerinserion sehr schwach verdickt, kahl; vor der Fühlerinserion äusserst fein und spärlich punktuert, im übrigen nahezu glatt, wenig glänzend. Fühler um den doppelten Querdurchmesser der Augen vor diesen eingefügt, lang und schlank; Schaft so lang als die drei ersten Geisselglieder zusammen; 1. Geisselglied merklich länger und etwas kräftiger als das 2., dieses 3-mal so lang als breit, das 3. Glied  $1\frac{1}{3}$ -mal so lang als breit, das 4. und 5. etwas kürzer als das 3. aber noch deutlich länger als breit, das 6. so lang als breit, das 7. rundlich; die lange, spindelförmige Keule lose gegliedert, deutlich abgesetzt.

Halsschild an der zweibuchtigen Basis  $1\frac{1}{3}$ -mal so breit als in der Mittellinie lang, vor den Hinterecken und hinter dem Vorderrande stark eingezogen, an den Seiten dazwischen mässig stark gerundet, am Vorderrande um zwei Fünftel schmaler als zwischen den spitzwinkeligen Hinterecken, die Basis ziemlich stark zweibuchtig; seitlich gesehen wenig gewölbt, hinter dem Vorderrand sehr schwach niedergedrückt; ziemlich grob und dicht punktiert, die Punkte etwas flach eingestochen, die Zwischenräume kaum so breit als die Punkte, sehr fein chagriniert,

vor dem Schildchen mit einem kräftigen Basalgrübchen, welches sich als feine Mittellinie bis an den Vorderrand hinzieht.

Flügeldecken etwas gestreckt, zwischen den kräftig entwickelten Schulterbeulen reichlich breiter als die Basis des Thorax, von diesen nach hinten fast geradlinig und nur äusserst schwach verbreitert, etwas hinter der Mitte am breitesten, von da nach hinten etwas stumpf zugerundet; am Apex beiderseits leicht eingezogen; seitlich gesehen schwach und gleichmässig gewölbt; stark punktiert-gestreift, die vollkommen ebenen Zwischenräume etwas breiter als die Punktstreifen, mit 1.-2. Reihen feiner Pünktchen besetzt, im Grunde mikroskopisch fein, runzelig chagriniert. Schildchen mässig klein, scharf gefurcht.

Beine—namentlich die vorderen!—sehr lang und ziemlich schlank; an den Vorderbeinen ist das erste Tarsenglied merklich länger als an den vier hinteren Beinen,  $1\frac{1}{2}$ -mal so lang als das 2., dieses so lang als breit, vorne tief dreieckig ausgeschnitten, das 3. Glied ziemlich breit gelappt, das Klauenglied das 3. nicht ganz um seine Hälfte überragend; an den vier Hinterbeinen ist das 1. Tarsenglied nur etwa  $1\frac{1}{2}$ -mal so lang als breit, das 2. und 3. Glied nur um geringes kürzer als an den Vorderbeinen. Die Klauen sind an sämtlichen Beinen lang, scharf gezähnt.

Long (s.r.): 2,8—3 mm.

Von dieser Species haben mir nur zwei völlig übereinstimmende Exemplare weiblichen Geschlechts, das eine aus Bolivien: Yungas (Germain), das andere aus Brasilien-Amazonas: Fonteboa (Staudinger) in meiner Collection, zur Beschreibung vorgelegen; die Type befindet sich im Deutschen Entom. Museum zu Dahlem.

### 9. *Apion ancistrotarse* nov. spec. (Text-fig. 18, 19, 19A).

Dem *Apion brevipes* m. am nächsten verwandt, nur durch folgende Punkte von ihm verschieden: der Rüssel ist beim ♂ um wenigens länger als bei ersterem, in der apicalen Hälfte etwas dunkler rötlichgelbbraun, die rötlichgelbe Färbung geht allmählich in das pechschwarz der Basalpartie über; etwas feiner punktiert.

Die Fühler sind erheblich länger, der Schaft und das erste Geißelglied rötlichgelb, die übrigen Geißelglieder und die Keule pechschwarz. Schaft so lang als die zwei ersten Geißelglieder zusammen, 1. Geißelglied nur wenig länger, aber fast doppelt so breit als das 2. 2.—7. Glied gleich lang, doch allmählich um geringes stärker werdend, das 2. doppelt, das 7.  $1\frac{1}{3}$ -mal so lang als breit; die Keule schmaler als bei *brevipes*, schwach abgesetzt.

Der Halsschild ist nach vorne etwas stärker verengt, von der Basis gegen die Mitte stärker gerundet, feiner als bei *brevipes* punktiert. Die Tarsen an den Vorderbeinen sind etwas länger; das 1. Glied merklich länger und etwas schmaler als das 2., dieses so lang als breit. Beim Männchen ist das erste Glied der Hintertarsen an der apicalen Innenecke **ziemlich lang und breit hakig nach abwärts gezogen**; bei *brevipes* sind die Beine beim ♂ einfach gebildet.

Von *Apion gilvirostre* m., welches im männlichen Geschlecht die gleichen Anzeichnungen wie *ancistrotarse* m. aufweist, unterscheidet sich letzteres durch die etwas kleinere, gedrungenere Gestalt, die mehr bräunlichgelbe Färbung der Beine und Rüsselspitze, besonders auch durch den nach vorne mehr verengten, seitlich mehr gerundeten Halsschild, den beim ♂ etwas längeren Rüssel, die dünneren Fühler, etc., etc., sehr leicht.

Long (s.r.): 2,4 mm.

Ein Männchen aus Bolivien: Yungas (Germain), im Deutsch. Entom. Museum.



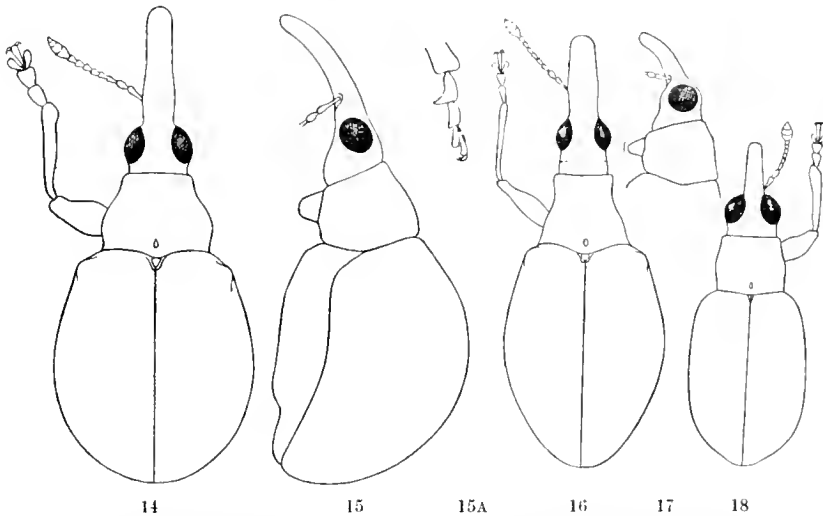
10. *Apion cyanopterum* nov. spec. (Text-fig. 10).

In die Verwandtschaft des *Apion xanthorhynchum* m. gehörig, diesem habituell auch sehr ähnlich, durch die grüblau schimmernden Flügeldecken von allen Verwandten sofort zu trennen.

Körper schwarz, die Flügeldecken grünlichblau schimmernd, die Fühlerwurzel rötlichbraun, die Schenkel mit Ausnahme der geschwärtzten Kniee hell rostrot, die Schienen an der Basis mehr oder minder ausgedehnt rötlichbraun, im übrigen wie die Tarsen pechbraun; mit sehr feinen, weisslichen Härchen spärlich bekleidet.

Kopf etwas breiter als lang, die Augen gross, mässig gewölbt und vortretend, die Stirne etwas schmaler als die Rüsselspitze, wie der Kopf bis zum schwach nach vorne verengten, fein quergerieften Scheitel stark und dicht punktiert, die Punkte grösser als die Zwischenräume; in der Mitte mit einem stumpfen Kielchen.

Rüssel beim ♀ so lang als Kopf und Halsschild zusammen, kräftig, schwach

FIG. 18.—*Apion ancistrotarse* ♂.

" 19.— " " "

" 19A.— " " "

FIG. 20.—*Apion brachyrhynchum* ♂.

" 21.— " *brachyppus* ♂.

" 22.— " " "

gebogen, fast cylindrisch, zwischen der Fühlerinsektion und Spitze äusserts schwach eingengt; von der Basis bis zur Spitze erheblich feiner als die Stirne, aber dicht und etwas längsrisig punktiert, im Grunde mikroskopisch fein chagriniert, schwach glänzend.

Fühler um den Längsdurchmesser der Augen vor diesen eingefügt, zieml. lang; Schaft so lang als die zwei ersten Geisselglieder zusammen; 1. Glied etwas länger und merklich kräftiger als das 2., dieses gnt 2-mal so lang als breit, das 3.—7. an Länge kaum verschieden, aber allmählig stärker werdend, das 3. etwa  $1\frac{1}{2}$ -mal so lang als breit, das 7. rundlich; die eiförmige Keule deutlich abgesetzt.

Halsschild etwas breiter als lang, an den Seiten von den nahezu rechtwinkligen Hinterecken gegen die Mitte hin sehr wenig verbreitert, daselbst am breitesten, von da nach vorne mässig stark verengt, hinter dem Vorderrand sehr wenig eingebuchtet; seitlich gesehen sehr schwach gewölbt; so stark und dicht wie

die Stirne punktiert, die Zwischenräume etwas schmaler als die ziemlich flach eingestochenen Punkte, mit einem kurzen, doch deutlichen Basalgrübchen.

Flügeldecken ziemlich breit verkehrt-eiförmig, zwischen den deutlich entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, von diesen nach hinten ziemlich stark verbreitert, etwa in der Mitte am breitesten, nach hinten ziemlich breit zugrundet; seitlich gesehen ziemlich stark gewölbt; mässig stark punktiert-gestreift, die vollkommen ebenen Spalten in der Deckenmitte fast 3-mal so breit als die Punktstreifen, fein quer gerunzelt, dazwischen mit feinen Punkten unregelmässig und sparsam besetzt. Schildchen ziemlich gross, lang dreieckig, scharf gefurcht.

Beine kräftig, mässig lang; 1. und 2. Tarsenglied gleich lang, doch das 1. etwas schmaler als das 2., das 3. breit gelappt, das Klauenglied überragt das 3. um seine Hälfte, die Klauen ziemlich fein, scharf gezähnt.

Long (s.r.): 3,2 mm.

Ein Exemplar (♀) aus Bolivien: Yungas (Germain), im Material des Deutsch. Entom. Museum.

### 11. *Apion ochropterum* nov. spec.

Dem *Apion erythropterum* Sharp äusserst nahestehend, etwas kleiner und viel schmaler, auf den Decken mehr ockergelb, ferner durch folgende Punkte von ihm verschieden: Der Kopf ist verhältnismässig etwas breiter, nach vorne kaum verengt, da die Augen mehr vortreten; der Rüssel ist erheblich kürzer, nur wenig länger als der Halsschild, verhältnismässig dünner, nur äusserst fein und spärlich punktuert, stark glänzend; der Halsschild ist bei gleicher Grundform etwas schmaler, zeigt jedoch die gleiche Skulptur, die Flügeldecken sind hingegen im Verhältnis zum Halsschild erheblich schmaler; zwischen den deutlich entwickelten Schulterbeulen etwas schmaler als bei *erythropterum*, von da nach hinten viel schwächer als bei letzterem erweitert, etwas hinter der Mitte am breitesten, nach hinten eiförmig zugrundet; seitlich gesehen merklich schwächer als bei *erythropterum* gewölbt. Das Schildchen ziemlich klein dreieckig, undeutlich gefurcht. Die Beine sind wie bei *erythropterum* gebildet, doch sind die Schenkel dunkler, die vorderen nur in der Mitte etwas heller braun, die hinteren ganz pechbraun, alle Tibien und Tarsen pechschwarz. Die Naht der Flügeldecken ist intensiver geschwärzt, der Rüssel ist beim ♀ pechbraun.

Long (s.r.): 1,7 mm.

Zwei weibliche Exemplare aus Bolivien: Yungas (Germain) lagen der Beschreibung zu Grunde.

### 12. *Apion (Trichapion) acanthopus* nov. spec. (Text-fig. 23-26).

Dem *Apion persulcatum* m. sehr nahe stehend, von gleicher Grösse und Färbung, durch folgende Merkmale von ihm verschieden: der Halsschild ist erheblich breiter, starker und viel dichter punktiert, der Rüssel ist beim ♂ viel kürzer, beim ♀ etwas länger, bei letzterem auch stärker gebogen; die Flügeldecken sind kürzer und stärker gerundet, im Umriss fast kreisrund.

Kopf mit den stark gewölbten und stark vorspringenden Augen viel breiter als lang, die Augen beim ♂ merklich grösser, doch flacher als beim ♀; Stirne nach vorne stark verengt, vorne so breit als die Rüsselbasis, hinten doppelt so breit als vorne, leicht kissenartig gewölbt, stark und dicht punktiert, in der Mitte mit einem schmalen, unpunkteten, fein chagrinierten bisweilen etwas eingedrückten

Streifen; der fein quergebrieffte Scheitel ist durch eine schwache Querdepression vom Kopfe getrennt.

Rüssel beim ♂ etwas kürzer als Kopf und Halsschild zusammen, ziemlich kräftig, mässig stark gebogen, von der Basis bis zur Fühlerinsertion äusserst schwach verbreitert, von da zur Spitze schwach verjüngt; in den beiden basalen Dritteln an den Seiten ziemlich stark gefurcht, in den Furchen mit groben, flachen Punkten besetzt; oberseits von der Basis bis nahe zur Spitze mit einem feinen Kielehen, von der Basis zur Fühlerinsertion mit gröberem Punkten spärlich besetzt, im Grunde fein chagrinirt, matt, von der Fühlerinsertion zur Spitze mit feineren, doch tiefer eingestochenen Punkten, die in Reihen angeordnet

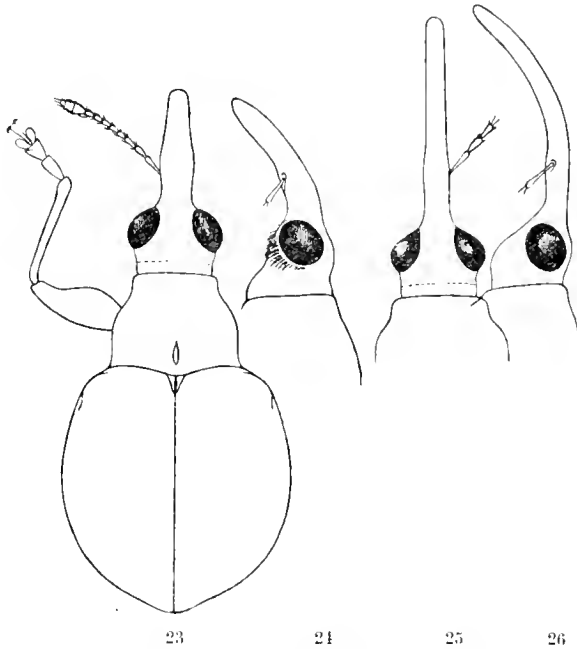


FIG. 23.—*Apion awanthopus* ♂.

„ 24.— „ „ „ ♂.  
 „ 25.— „ „ „ ♀.  
 „ 26.— „ „ „ ♀.

sind, dicht besetzt, im Grunde glatt, schwach glänzend. Rüssel beim ♀ erheblich dünner als beim ♂, etwa  $1\frac{2}{3}$ -mal so lang als Kopf und Halsschild zusammen, zylindrisch, ziemlich stark gebogen, von der Basis bis zur Spitze mit sehr feinen, in Reihen angeordneten Punktehen zieml. dicht besetzt, im Grunde glatt, stark glänzend.

Fühler beim ♂ um geringes weniger, beim ♀ um etwas mehr als um den Längsdurchmesser der Augen vor diesen eingelenkt, lang und schlank; ♂: Schaft so lang als die zwei ersten Geisselglieder zusammen, 1. und 2. Geisselglied gleich lang, doch das 1. etwas stärker, das 2.  $2\frac{1}{2}$ -mal so lang als breit, das 3.–7. gleich lang, deutlich länger als breit. ♀: die Glieder im gleichen Verhältnis wie beim ♂ gebildet, aber merklich schlanker, und länger, das 2. Geisselglied reichlich

3-mal so lang als breit, das 3.-6. gut doppelt so lang als breit, das 7. etwas kürzer ; die lang-spindelförmige Keule in beiden Geschlechtern schwach abgesetzt, die Geißel (namentlich beim ♂) lang und fein schwarz bewimpert.

Halsschild an der 2-buchtigen Basis um ein Drittel breiter als in der Mittellinie lang, vor den schwach spitzwinkeligen Hinterecken mässig stark eingezogen, gegen die Mitte hin leicht gerundet verbreitert, wenig vor der Mitte am breitesten, von da zum Vorderrand ziemlich stark verengt, hinter letzterem stark eingezogen ; seitlich gesehen sehr schwach gewölbt, hinter dem Vorderrand sehr schwach niedergedrückt ; grob und dicht punktiert, die fein chagrinierten Zwischenräume auf der Scheibe kaum so breit, an den Seiten so breit oder etwas breiter als die Punkte, vor den Schildchen mit einem tiefen, länglichen Grübchen.

Flügeldecken stark gerundet, kurz, an den deutlich entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, von diesen zum Apex stark und gleichmässig gerundet, in der Mitte am breitesten ; seitlich gesehen hochgewölbt ; stark, fast kettenförmig punktiert-gestreift, die Spatien etwas breiter als die Punktstreifen, flach oder etwas gewölbt, fein runzelig chagriniert, dazwischen mit zwei Reihen feiner, bisweilen undeutlicher, härchentragender Pünktchen besetzt. Schildchen ziemlich gross, länglich-dreieckig, scharf gefurcht. Seiten der Brust und das Abdomen mit ziemlich starken Punkten mässig dicht besetzt.

Beine beim ♀ relativ schlank, beim ♂ die Schenkel ziemlich kräftig verdickt ; 1. Tarsenglied etwa  $1\frac{1}{3}$ -mal so lang als das 2., dieses um geringes länger als breit, das 3. mässig breit gelappt, kürzer als das 2., das Klauenglied überragt das 3. um seine Hälfte, die Klauen ziemlich lang, gekrümmt, scharf gezähnt.

Beim Männchen sind die vier hinteren Tibien an der apicalen Innenecke scharf dornförmig verlängert, der Dorn an den mittleren Beinen ist etwas kräftiger als an dem hinteren Beinpaar.

Long. (s.r.) : 3,1—3,3 mm.

Körper schwarz, die Flügeldecken dunkel cyanblau ; der ganze Körper fein und wenig dicht, die Episternen der Mittel- und Hinterbrust dicht weiss behaart.

Von dieser Art lagen mir vier weibliche Exemplare aus Bolivien : Yungas, (Germain) und ein männliches Exemplar aus Brasilien-Amazonas : Fouteboa, (Standinger) zur Beschreibung vor ; die weibliche Type befindet sich im Deutschen Entomolog. Museum, die männliche in meiner Collection.

### 13. *Apion brachyrhynchum* nov. spec. (Text-fig. 20).

Eine sehr charakteristische Art, die zu keiner der bisher bekannten Arten dieses Faunengebietes eine grössere Aehnlichkeit aufweist.

Körper tief schwarz, etwas glänzend, scheinbar kahl.

Kopf infolge des lang abgesetzten Scheitels trotz der stark vorspringenden, gewölbten Augen etwas länger als breit ; die Stirne wenig breiter als die halbe Rüsselbreite über der Fühlerinsertion, leicht eingedrückt, beiderseits am Innenrand der Augen von einem stumpfen Fältchen begrenzt, wie der übrige Kopf im Grunde mikroskopisch fein chagriniert, dazwischen mit ganz einzelnen, äusserst feinen Pünktchen besetzt : der Scheitel durch eine feine Quersutur vom Kopf gesondert.

Rüssel kräftig, beim ♂ so lang als der Halsschild und Kopf bis zum hinteren Augenrand gemessen zusammen, schwach gebogen, fast cylindrisch, nur an der Fühlerinsertion schwach angeschwollen ; von der Basis bis zur Spitze mit feinen

Pünktchen sparsam besetzt, im Grunde mikroskopisch chagriniert, etwas fettig glänzend.

Fühler mässig schlank, in der Mitte des Rüssels eingelenkt; Schaft 2-mal so lang als das 1. Geisselglied, dieses wenig länger als breit, viel stärker als die folgenden Glieder, diese allmählig an Länge abnehmend, das 2. Glied  $1\frac{1}{2}$ -mal so lang als breit, das letzte rundlich; Keule eiförmig, zugespitzt, scharf abgesetzt.

Halsschild fast so lang als zwischen den spitzwinkligen Hinterecken breit, von diesen nach vorne ziemlich stark verengt, vor den Hinterecken schwach, hinter dem Vorderrand ziemlich kräftig einzogen, die Seiten dazwischen kaum gerundet; mit feinen und sehr flachen Punkten wenig dicht besetzt, im Grunde glatt und glänzend, vor dem Schildchen mit einem kurzen, tiefen Basalgrübchen.

Flügeldecken oval, zwischen den kräftigen Schulterbeulen doppelt so breit als der Halsschildvorderrand, von diesen nach hinten schwach gerundet erweitert, an der Spitze schwach abgestutzt; mässig stark gewölbt; stark punktiert-gestreift, die Spalten flach gewölbt, in der Deckenmitte wenig breiter als die Punktstreifen, äusserst fein chagriniert, etwas glänzend. Schildchen rundlich, ungefurcht, von einer scharfen Furehe umgrenzt.

Beine lang und schlank, 1. Tarsenglied an den Vorderbeinen etwas mehr, an den vier hinteren Beinen etwas weniger als  $1\frac{1}{2}$ -mal so lang als das 2., dieses an allen Beinen so lang als breit, das 3. ziemlich schmal gelappt, die Lappen breit gespreizt, das Klauenglied doppelt so lang als das 3., die Klauen fein, sehr scharf und spitz gezähnt.

Beine ohne besondere Anzeichnungen beim Männchen.

Long. (s.r.): 2,5 mm.

Ein Exemplar, welches ich für ein Männchen halte, aus Bolivien: Yungas, (Germain), im Material des Deutschen Entomolog. Museum.

#### 14. *Apion callanganum* nov. spec.

Der vorigen Art äusserst nahestehend, von etwas geringerer Grösse, durch folgende Punkte von ihr verschieden und sehr ausgezeichnet; Körper tiefschwarz, schwach glänzend, die Kniee, Tibienspitzen, Tarsen und die Fühlerwurzel trüb bräunlichgelb; der Rüssel ist beim ♂ etwas dünner, über der Fühlerinsektion etwas stärker angeschwollen, um wenigens stärker punktiert, die Zwischenräume sehr schwach runzelig erhoben; an den Seiten von der Basis bis nahe zur Spitze deutlich gefurcht. Der Kopf ist gleichfalls stärker runzelig punktiert, die Stirne von zwei, durch ein deutliches Mittelwülstchen getrennten Furchen durchzogen, der Scheitel ist viel kürzer. Die Fühler sind etwas kürzer, Schaft und 1. Geisselglied bräunlichgelb, die Glieder im Verhältniss wie bei voriger Art gebildet.

Halsschild wie bei *braehyrhynchum* geformt, nur hinter dem Vorderrand merklich schwächer einzogen; viel stärker und dicht punktiert, die Zwischenräume etwas gerunzelt, auf der Scheibe kaum so breit als die etwas flach eingestochenen Punkte; das Basalgrübchen flach, doch deutlich. Die Flügeldecken sind in der Form genau wie bei vorigem, die Skulptur weicht jedoch ab; die Punkte stehen in den Streifen merklich dichter, die Spalten sind etwas schmaler und gewölbter, fein runzelig chagriniert. Schildchen rundlich, ungefurcht. Beine genau wie bei *braehyrhynchum* gebildet, nur wie oben erwähnt abweichend gefärbt.

Long (s.r.): 2,3 mm.

Ein männliches Exemplar, aus Peru: Callanga, von Staudinger erhalten, in meiner Collection.

15. *Apion dentitarse* nov. spec.

Dem *brunnotibiale* m. sehr nahe stehend, von gleicher Gestalt und Grösse, ansser durch die etwas abweichende Färbung, durch folgende Merkmale von ihm verschieden: Körper pechschwarz, die Flügeldecken ziemlich lebhaft bronceglänzend, die Tibien dunkel rötlichpechbraun, die Fühler, Schenkel und Tarsen pechschwarz; mit feinen, weisslichen Härchen spärlich besetzt.

Der Rüssel ist beim ♂ etwas kürzer und fast doppelt so dick, etwas stärker gebogen, cylindrisch, von der Basis bis nahe zur Spitze mit viel kräftigeren Punkten ziemlich dicht besetzt, die Punkte werden nach vorne etwas feiner und spärlicher. An den Fühlern sind Schaft und Geissel wie bei *brunnotibiale* gebildet, die Keule ist jedoch ganz erheblich kürzer, schwach abgesetzt.

Der Halsschild ist bei ganz gleicher Form mit ebenso starken Punkten besetzt, doch stehen die Punkte viel sparsamer, die deutlich chagrinuerten Zwischenräume sind so breit oder nur um ganz geringes schmaler als die Punkte; das Basalgrübchen ist sehr fein, etwas undeutlich.

Flügeldecken in der Form ganz wie bei *brunnotibiale*, auch in der Skulptur im wesentlichen gleich, nur sind die Spatien etwas flacher, nicht **quer-runzelig**, sondern einfach gerunzelt, dazwischen mit einzelnen, feinen Pünktchen besetzt. Die Beine sind in Länge und Stärke wie bei letzterer Art, nur sind die vier hinteren Schenkel **nicht sprungbeinartig verdickt**; das 1. Tarsenglied der vier hinteren Beine ist an der apicalen Innenecke weniger scharf und etwas kürzer zahnartig nach abwärts gezogen.

Long (s.r.): 1,8 mm.

Ein männliches Exemplar, von Germain in Bolivien: Yungas, gesammelt, Jag zur Beschreibung vor.

16. *Apion brachypus* nov. spec. (Text-fig. 21, 22).

Körper pechbraun, der Halsschild trüb rötlichbraun, matt, die Flügeldecken heller rötlichbraun, sehr wenig glänzend, die Beine mit Ausnahme der pechschwarzen Tarsen, die Fühler mit Ausnahme der schwarzen Keule und der Rüssel rötlichpechbraun, das Schildchen und die Flügeldeckennaht schwarz. Der ganze Körper ist mit sehr feinen, kurzen, seidenglänzenden, weisslichen Härchen spärlich besetzt.

Kopf mit den grossen, stark gewölbten und ziemlich stark vortretenden Augen breiter als lang, der Scheitel mässig verlängert, die Stirne etwas schmaler als die Rüsselspitze, von zwei ziemlich scharfen, durch einen Mittelkiel getreunten Furchen durchzogen, diese gegen den Innenrand der Augen gleichfalls von einem feinen Längsfältchen begrenzt; in den Furchen wie der übrige Kopf mit Ausnahme des sehr fein quergelieferten Scheitels, mit ziemlich starken Punkten dicht besetzt.

Rüssel so lang als der Halsschild, mässig stark, schwach gebogen, von der Basis zur Spitze sehr schwach verengt, ebenda mit sehr feinen, längsrisrigen Punkten ziemlich sparsam besetzt; im Grunde glatt und glänzend.

Fühler kurz vor der Basis des Rüssels eingelenkt, mit der Keule die Rüsselspitze überragend; Schaft doppelt so lang als das 1. Geisselglied, dieses oval, viel starker als die folgenden, eng aneinandergelagerten Geisselglieder, welche gegen die Keule hin allmählig etwas kürzer und breiter werden; das 2. Glied etwas länger als breit, das 7. quer. Keule kurz-eiförmig, stark zugespitzt, scharf abgesetzt.

Halsschild um ein Fünftel in der Mittellinie kürzer als in der Mitte breit, von den nahezu rechtwinkeligen Hinterecken nach vorne sehr sanft ausgeschweift verbreitert, wenig hinter der Mitte am breitesten, von da nach vorne wieder sanft ausgeschweift verengt, am Vorderrand nur wenig, etwa ein Sechstel schmaler als an der Basis, diese fast gerade abgestutzt; ziemlich grob und dicht punktiert, die Zwischenräume so gross als die etwas flach einbestochenen Punkte, sehr dicht und fein chagriniert, matt; das Basalstrichel ziemlich tief, fast bis zur Mitte reichend.

Flügeldecken doppelt so breit als der Halsschildvorderrand, die Schultern etwas verrundet, von diesen nach hinten an den Seiten fast parallel, hinten stumpf zugerundet; seitlich gesehen mässig gewölbt; stark punktiert-gestreift, die vollkommen ebenen Spatien etwas breiter als die Punktstreifen, fein querverrunzelt. Schildehen länglich, scharf gefurcht. Die Seiten der Brust und das Abdomen grob und dicht punktiert.

Beine kurz und ziemlich kräftig, die Tibien gegen das distale Ende hin ziemlich stark verbreitert; 1. Tarsenglied wenig länger als das 2., dieses so lang als breit, das 3. kurz und schmal gelappt, das Klauenglied ziemlich lang und fein, das 3. um mehr als seine Hälfte überragend, die Klauen klein und fein, deutlich gezähnt.

Long (s.r.): 1,8 mm.

Ein Exemplar, ♂, aus Bolivien: Yungas (Germain), lag mir zur Beschreibung vor.

#### 17. *Apion tomentiferum* nov. spec.

In die Verwandtschaft des *Apion rinosum* Sharp gehörig, diesem auch sehr ähnlich, jedoch erheblich grösser, durch den Mangel eines metallischen Schimmers auf dem mehr rötlichbraunen Körper, durch die heller rötlichgelben Beine, die gröbere und dichtere Behaarung, etc., sehr scharf verschieden.

Kopf breiter als lang, die Augen gross, stark gewölbt und ziemlich stark vortretend; der Scheitel ist durch eine ziemlich scharfe Quersutur vom Kopf getrennt; die Stirne ist etwa halb so breit als der Rüssel an der Fühlerinsektion, schwach kissenartig gewölbt, mit zwei schwachen Furchen, in diesen wie der übrige Kopf mit ziemlich starken Punkten dicht besetzt.

Rüssel beim ♂ so lang als Kopf und Halsschild zusammen, ziemlich kräftig gebant, cylindrisch, sehr schwach gebogen (fast gerade), von der Basis bis nahe zur Spitze mit etwas feineren Punkten als die Stirne, in der basalen Hälfte etwas spärlicher als in der distalen besetzt; an den Seiten von der Basis bis zum apicalen Drittel von zwei, durch einen Mittelkiel getrennten, ziemlich tiefen Furchen durchzogen, in denselben gleichfalls ziemlich kräftig und dicht punktiert.

Fühler um den Querdurchmesser der Augen vor diesen eingeleukt, massig lang; Schaft nahezu doppelt so lang als das 1. Geisselglied, dieses so lang aber fast doppelt so breit als das 2., dieses etwa  $2\frac{1}{2}$ -mal so lang als breit, das 3. doppelt so lang als breit, das 4.-7. allmählig an Länge abnehmend, das 4. noch reichlich länger als breit, das 7. rundlich. Keule lang eiförmig, zugespitzt, schwach abgesetzt.

Halsschild an der schwach zweibeuchtigen Basis  $1\frac{2}{3}$ -mal so breit als in der Mittellinie lang, vor den spitzwinkeligen Hinterecken nach vorne ziemlich stark verengt, vor den Hinterecken schwach, hinter dem Vorderrande merklich stärker eingezogen, die Seiten dazwischen schwach gerundet, am Vorderrande etwas mehr als halb so breit als an der Basis; ziemlich stark und dicht punktiert, die

Zwischenräume schmaler als die Punkte, diese etwas flach eingestochen, vor dem Schildchen mit einem tiefen, doch ziemlich kurzen Basalstrichehen.

Flügeldecken gedrunken, zwischen den kräftig entwickelten Schulterbeulen reichlich breiter als die Halsschildbasis, von diesen nach hinten äusserst schwach verbreitert (fast parallel), in der Mitte kaum breiter als zwischen den Schulterbeulen, nach hinten stumpf-eiförmig zugrundet; seitlich gesehen ziemlich stark gewölbt; stark punktiert-gestreift, die Spalten wenig breiter als die Punktstreifen, sehr fein querrunzelig, mit drei Reihen feiner, Härchen tragender Pünktchen besetzt.

Schildchen rund, schwach concav, ungefurcht, von einer scharfen Furchung umschlossen.

Beine mässig lang, ziemlich kräftig; 1. und 2. Tarsenglied von gleicher Länge, das 2. etwas schmaler als das 1., das 3. mässig breit gelappt, das Klauenglied nicht ganz um seine Hälfte das 3. überragend, die Klauen ziemlich lang und scharf, nicht sehr scharf gezähnt.

Körper dunkel rotbraun, der Halsschild und die Flügeldecken etwas heller rostrot, ziemlich matt, die Beine rötlichgelbbraun, die Fühler und Tarsen pechbraun. Kopf, Rüssel, Halsschild, Flügeldecken und Beine mit feinen, weisslichen Härchen mässig dicht, die Seiten und der Vorderrand des Halsschildes, die Vorderseiten der Vordercoxen und die Abdominalsegmente merklich dichter und mehr reinweiss, die Seiten der Mittel- und Hinterbrust sehr dicht rein weiss behaart; der untere Augenrand ist von einem langen Wimperkranz umschlossen.

Long. (s.r.): 2,6—2,8 mm.

Zur Beschreibung lagen mir drei Exemplare vor, welche ich für Männchen halte; zwei im Material des D.E.M., eines freundlichst meiner Collection überlassen. Die Art wurde von Germain in Bolivien: Yungas, gesammelt.

### 18. *Apion* (*Stenapion*) *yatahyanum* nov. spec. (Text-figs. 4, 5).

Eine durch die Grösse, Gestalt und namentlich durch den in beiden Geschlechtern ganz enorm langen Rüssel, äusserst markante Art aus dem südamerikanischen Faunengebiet.

Körper tiefschwarz, die Flügeldecken mit sehr schwachem metallischem Schimmer, ziemlich stark glänzend, beim Männchen der Rüssel die Beine, in beiden Geschlechtern der Flügeldeckenapex und die Seiten der zwei ersten Abdominalsegmente mit rein weissen Borstenhärchen ziemlich spärlich, die Seiten der Vorder-, Mittel- und Hinterbrust sehr dicht besetzt.

Kopf mit den grossen, stark gewölbten und stark vorspringenden Augen etwas breiter als lang, die Stirne in beiden Geschlechtern merklich schmaler als die Rüsselspitze, von zwei flachen Furchen durchzogen, in diesen sehr fein chagriniert, der glatte Scheitel durch eine deutliche Querdepression vom Kopf getrennt.

Rüssel ausserordentlich lang, beim ♂  $1\frac{2}{3}$ -mal so lang als Kopf und Halsschild zusammen, beim ♀ nur um geringes kürzer als die Flügeldecken, bei letzterem merklich dünner als bei ersterem, in beiden Geschlechtern zwischen der Basis und der Fühlerinserion und dieser und der Spitze sehr schwach eingengt, an letzterer leicht angeschwollen, schwach gebogen; beim Männchen mit ziemlich feinen, länglichen, die weissen Borstenhärchen tragenden Pünktchen bis nahe zur Spitze ziemlich dicht besetzt, im Grunde mikroskopisch fein chagriniert, matt; beim Weibchen mit viel feineren, gleichfalls längsrissigen Pünktchen spärlicher besetzt, im Grunde noch feiner chagriniert, etwas fettig glänzend.



Fühler lang und schlank, beim ♂ nahezu in der Mitte, beim ♀ zwischen dem basalen Drittel und der Mitte eingelenkt; ♀: Schaft dünn, fast so lang als die zwei ersten Geißelglieder zusammen, 1.-4. Glied gleich lang, das 1. kaum stärker als die folgenden, jedes gut 4-mal so lang als breit, das 5. etwas kürzer, das 6. und 7. zweimal so lang als breit, etwas stärker als die vorigen; ♂: Schaft nur  $1\frac{1}{2}$ -mal so lang als das 1. Geißelglied, dieses so lang und nur wenig stärker als das 2., dieses gut 3-mal so lang als breit, das 3.-5. etwa  $2\frac{1}{2}$ -mal, das 6. 2-mal so lang als breit, das 7. etwas kürzer und breiter; Keule in beiden Geschlechtern spindelförmig, deutlich abgesetzt.

Halsschild gut  $1\frac{1}{4}$ -mal so lang als an der breitesten Stelle breit, im basalen Viertel fast parallel, dann leicht gerundet, etwas vor der Mitte am breitesten, zwischen dieser und dem Vorderrand mässig stark eingezogen, am Vorderrand nur wenig schmaler als an der 2-buchtigen Basis; seitlich gesehen sehr wenig gewölbt, hinter dem Vorderrande schwach niedergedrückt; mit ziemlich feinen und sehr flachen Punkten wenig dicht besetzt, die Zwischenräume viel breiter als die Punkte, sehr fein chagriniert, ein Basalstrichel fehlt.

Flügeldecken lang und schmal, doppelt so lang als breit, zwischen den kräftig entwickelten Schulterbeulen doppelt so breit als der Halsschildvorderrand, von diesen nach hinten äusserst schwach ausgeschweift erweitert, nahezu in der Mitte am breitesten, von da nach hinten sanft gerundet verengt, am Apex stumpf abgerundet; seitlich gesehen ziemlich wenig gewölbt; fein gestreift, die Streifen mit sehr undeutlichen Pünktchen sehr weitläufig besetzt, der 1. Streifen furchenartig vertieft, dementsprechend der erste Zwischenraum schmaler als die folgenden, diese sehr breit und flach, im Grunde glatt und glänzend; der 1. Streifen ist an der Spitze stark vertieft, ebenso die Vereinigungsstelle des 6. und 7. Streifens vor der Spitze, die zwischen den Vertiefungen liegenden Spatien sind etwas wulstartig erhoben. Das Schildchen klein, rundlich, undeutlich gefurcht. Die Seiten der Brust und das Abdomen sind fein und mässig dicht punktiert.

Beine sehr lang und schlank; 1. Tarsenglied  $1\frac{1}{2}$ -mal so lang als das 2., dieses etwas länger als breit, das 3. Glied kurz, schmal gelappt; das Klauenglied doppelt so lang als das 3., die Klauen ziemlich kräftig, scharf gezähnt.

Long. (s.r.): 4,8—5 mm.

Von dieser ausgezeichneten Art lagen mir drei Exemplare vor, ein Männchen und zwei Weibchen, alle von der gleichen Provenienz, Brasilien: Prov. Goyas, Yatahy; die männliche Type befindet sich in meiner Collection, die weibliche in der Sammlung des D.E.M., die weibliche Cotype im Material meines verehrten Freundes Herrn Hartmann.

## 2. BEITRÄGE ZUR KENNTNIS DER HORIZONTALEN VERBREITUNG ÄLTERER ARTEN.

1. *Apion americanum* m., bisher aus Br.-Honduras, Panama und Guatemala bekannt, kommt auch in Brasilien, Prov. Goyas: Yatahy, vor.
2. *Apion peculiare* m., wie obige Art.
3. *Apion binodosum* m., von Brasilien: Rio de Janeiro und Bahia beschrieben, ist westwärts bis zur Prov. Goyas: Yatahy, verbreitet.
4. *Apion wingelmülleri* m., aus Brasilien beschrieben, kommt auch in Bolivien: Yungas (Germain), vor.
5. *Apion leptorhynchum* Gerst., liegt wie die folgenden Species gleichfalls aus Bolivien: Yungas, vor.
6. *Apion informe* Beguin-Bille, bisher nur aus Brasilien nachgewiesen.

7. *Apion lassum* Sharp, bisher nur aus Central-Amerika bekannt, daselbst etwas weiter verbreitet.
8. *Apion pulchripes* Sharp, bisheriges Verbreitungsgebiet : südl. Guatemala, Mexico und Nicaragua.
9. *Apion ensirostre* Gerst., über das südl. Central- und über das nördl. und centrale Süd-Amerika ziemlich weit verbreitet.
10. *Apion tacamanense* Beguin-Bille., bisher aus Tucuman und Rio-Janeiro nachgewiesen.
11. *Apion basirostre* Sharp, aus Panama, Guatemala und Trinidad bekannt, kommt in der Paraguay : S. Bernardino (leg. K. Fiebrig), in einer etwas abweichenden Form vor ; während der Rüssel beim Männchen kaum länger als bei der typischen Form, ist derselbe beim Weibchen um bedeutendes länger, worin wir jedenfalls eine Anpassung an eine andere Nährpflanze zu erblicken haben. Ich betrachte es jedoch keineswegs für geboten, diese Form mit einem besonderen Namen zu belegen.

## ON AN APPARENTLY NEW FORM OF *LAMBESSA* FROM ALGERIA.

By THE HON. W. ROTHSCILD, Ph.D., F.R.S.

THIS *Lambessa* was bred from larvae found during my stay at Biskra in March 1911. The ♂ is very close to *Lambessa staudingeri* in appearance, but the ♀ has fully developed wings.

### *Lambessa virago* spec. nov.

♂ differs from *staudingeri* in the grey, not rufous, suffusion of the wings and the more pointed apex of forewing. The antennae also are longer when contrasted with the length of the costa.

Length of costa :	20 mm.	}	<i>L. staudingeri</i> .
„ „ antenna :	12 „		
Length of costa :	19 mm.	}	<i>L. virago</i> .
„ „ antenna :	15 „		

♀ differs strongly from that of *staudingeri*. While the latter is rufous brown and has quite vestigial wings, *L. virago* has fully developed wings and closely resembles the ♂, being of a uniform buff-grey colour.

Length of forewing : 16—28 mm.

Larva : head dark grey with buff pyramidal mark in centre ; segments dorsally brownish orange with dark slender streaks and spots, the segmental divisions blue with central lavender line ; sides dull lavender grey with two rosy diagonal bands on each segment, spiracles scarlet with a black crescent in front ; hairs in tufts white ; prolegs orange ; a black ventral quadrangular patch almost filled up with pyramidal buff markings on each segment.

Feeds usually on various *Salsolaceae*.

*Hab.* Col de Sfa, Biskra, S. Algeria, 1911 (W. R. & E. H. coll.).

1 ♂, 3 ♀♀, and 3 larvae.

A SYNONYMIC CATALOGUE OF THE *SYNTOMID* GENUS  
**BALACRA** WALK., WITH DESCRIPTIONS OF NEW SPECIES.

BY THE HON. W. ROTHSCHILD, Ph.D., F.R.S.

(Plates ~~XIII~~ <sup>XIII</sup> and ~~IV~~ <sup>XIV</sup>)

**Balacra** Walk.

*Balacra* Walk., *List. Lep. Ins. Brit. Mus.* vii. p. 1721 (1856) (Type: *caeruleifascia* Walk.).

*Pseudapiconoma* Auriv., *Ent. Tidskr.* vol. ii. p. 46 (1881) (Type: *lostacca* Aur.).

*Metaretia* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 143 (1898) (partim).

Owing to the fact that no one but Dr. Holland realised that *caeruleifascia* was not a *Metaretia* but a female of this genus, Walker's name has been relegated to the rank of a synonym. It has, however, the priority by twenty-five years over *Pseudapiconoma* of Aurivillins.

1. **B. caeruleifascia** Walk. (Pl. I., figs. 8, 9).

*Balacra caeruleifascia* Walker, *List. Lep. Ins. Brit. Mus.* vii. p. 1721 (1856).

*Metaretia caeruleifascia* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 145 (1898).

*Autonolis ehrmanni* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 145 (1898) (nec Holl.).

2. **B. ehrmanni** (Holl.) (Pl. I., figs. 10, 11).

*Autonolis ehrmanni* Holland, *Psyche* vol. vi. p. 535 (1893).

3. **B. germana** spec. nov. (Pl. II., fig. 24).

♂. Similar to *ehrmanni* but smaller, the forewings much narrower, and termen of hindwings not so much produced. Markings are all cinnabar red, not rufous orange, and the ground colour of forewings is a darker, more lavender, grey.

Length of forewing: 22 mm.; *ehrmanni*, 26 mm.

Breadth „ „ : 11 „ ; „ 15 „

*Hab.* Sierra Leone.

4. **B. humphreyi** spec. nov. (Pl. I., fig. 14).

♂. Coxae and innerside of tibiae orange scarlet; tarsi and outerside of tibiae slaty black; pectus and head scarlet; antennae dark brown; thorax and abdomen golden orange.—Forewing number-brown, a scarlet streak on subcostal nervure near base, a patch of long orange hairs on area between vein 1 and inner margin occupying the basal third, a golden orange patch between vein 1 and the middle of the median nervure, one in cell, and one each between 4 and 5 and 5 and 6, each patch with a partially obsolete hair-wide scarlet ring.—Hindwing golden orange, semihyaline whitish in costal area.

♀. Similar to ♀ of *caeruleifascia*, with much more pointed forewings, and the hindwings are not round but have the termen sharply produced. Pectus crimson; head orange; antennae dark brown; thorax mouse-grey, tegulae and patagia edged with buffy orange, as is rest of thorax; abdomen above pale mouse-grey edged with orange, below orange edged with pale grey.—Forewing wood-brown.

an orange spot on subcostal vein near base, a basal and an indistinct postmedian orange patch on area between inner margin and vein 1, a postmedian obscured or clouded orange patch between veins 1 and 2 and 2 and 3, a large vitreous spot between vein 1 and median nervure and a smaller one in cell, both surrounded by an orange ring, four vitreous patches between veins 3 and 7.—Hindwing orange yellow with an orange patch of hair at base.

*Hab.* South Nigeria, Ilesha, 1911 (L. E. H. Humphrey coll.). Type, ♂, in Brit. Mus.; ♀ Congo, and ♂ cotype in Tring Museum.

5. **B. ochracea** Walk. (Pl. I., figs. 15, 16).

*Balaera ochracea* Walker, *Proc. Nat. Hist. Soc. Glasgow* vol. i. p. 331 (1869).

*Pseudapiconoma ochracea* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 151 (1898).

6. **B. rattrayi** (Rothsch.) (Pl. I. figs. 12, 13).

*Pseudapiconoma rattrayi* Rothschild, *Nor. Zool.* vol. xvii. p. 444 (1910).

7. **B. testacea** (Aur.) (Pl. I. figs. 21, 22).

*Pseudapiconoma testacea* Aurivillius, *Ent. Tidskr.* vol. ii. p. 46. f. 1 (1881).

*Pseudapiconoma flavimacula* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 150 (1898) (partim).

8. **B. haemalea** Holl. (Pl. I. figs. 17, 18).

*Balaera haemalea* Holland, *Psyche* vol. vi. p. 397 (1893).

*Pseudapiconoma flavimacula* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 150 (1898) (partim).

9. **B. intermedia** spec. nov. (Pl. II. fig. 23).

♂. Intermediate between *haemalea* and *batesi* Druce. Head and thorax reddish-orange; abdomen deep orange.—Forewing amber brown, a golden yellow red-ringed patch below centre of median vein, a scarlet spot in cell and one immediately below it below median vein, two larger scarlet spots between veins 5 and 7.—Hindwings golden yellow clothed on abdominal half with orange hair.

*Hab.* Sierra Leone. Type in British Museum.

10. **B. batesi** (Druce) (Pl. II. figs. 25, 26).

*Pseudapiconoma batesi* Druce, *Ann. Mag. Nat. Hist.* (8) vol. vi. p. 393 (1910).

11. **B. batesi congoensis** (Rothsch.) (Pl. II. fig. 27).

*Pseudapiconoma batesi congoensis* Rothschild, *Nor. Zool.* vol. xvii. p. 443 (1910).

12. **B. batesi ngandae** (Rothsch.) (Pl. II. fig. 34).

*Pseudapiconoma batesi ugandae* Rothschild, *Nor. Zool.* vol. xvii. p. 443 (1910).

13. **B. flavimacula** Walk. (Pl. II. figs. 28, 29).

*Balaera flavimacula* Walker, *List Lep. Ins. Brit. Mus.* vii. p. 1722 (1856).

*Pseudapiconoma flavimacula* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 150 (1898) (partim).

14. **B. umbra** (Druce) (Pl. II. fig. 30).

*Pseudapiconoma umbra* Druce, *Ann. Mag. Nat. Hist.* (8) vol. vi. p. 394 (1910).

15. **B. preussi** (Aur.).

*Metarctia preussi* Aurivillius, *Ark. Zool.* vol. ii. p. 31. fig. 26 (1905). ♂.  
*Pseudapiconoma speculigera* Grünberg, *D. Ent. Zeitschr.* 1907. p. 434. ♀.

ab. **brunnea** Grünb. ♂ Pl. II. fig. 40.

*P. speculigera* ab. *obliterata* Grünb., *l.c.* p. 435. ♀  
*P. laureola* Druce, *Ann. Mag. Nat. Hist.* (8) vol. vi. p. 393 (1910) (partim, ♀).

This aberration is distinguished by the uniform clay-grey-brown of the thorax and abdomen and the strong reduction of red on the wings in the ♂ and the uniform cinnabar red of the hindwings and reduction of vitreous spots on the wings in the ♀.

16. **B. rubrovitta** (Auriv.) Pl. II. fig. 41.

*Metarctia rubrovitta* Aurivillius, *Ark. Zool.* vol. ii. p. 31. fig. 25 (1905).

17. **B. gloriosa** (Jordan) Pl. II. fig. 31.

*Pseudapiconoma gloriosa* Jordan, *Nor. Zool.* vol. xi. p. 441 (1904).

18. **B. pulchra** Auriv. Pl. II. figs. 32, 33.

*Balacra pulchra* Aurivillius, *Ent. Tidskr.* vol. xiii. p. 200 (1892).  
*Balacra glagoessa* Holl., *Psyche* vol. vi. p. 396 (1893).  
*Pseudapiconoma glagoessa* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 151.

19. **B. rubricincta** Holl. (Pl. I. figs. 1, 2).

*Balacra rubricincta* Holland, *Psyche* vol. vi. p. 396 (1893).  
*Pseudapiconoma rubricincta* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 151 (1898) (partim).

20. **B. furva** Hmps. (Pl. I. fig. 3).

*Balacra furva* Hmps., *Ann. Mag. Nat. Hist.* (8) vol. viii. p. 394 (1911).  
*Pseudapiconoma rubricincta* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 151 (1898) (partim).

21. **B. elegans** Auriv. (Pl. I. figs. 4, 5).

*Balacra elegans* Aurivillius, *Ent. Tidskr.* vol. xiii. p. 190 (footnote) (1892).  
*Balacra dumalis* Holl., *Psyche* vol. vi. p. 397 (1893).  
*Pseudapiconoma elegans* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 152 (1898).

22. **B. herona** (Druce) (Pl. I. figs. 6, 7).

*Anace herona* Druce, *P. Z. S.* 1887. p. 669 (1888).  
*Pseudapiconoma herona* Hmps., *Cat. Lep. Het. Brit. Mus.* vol. i. p. 149 (1898).

23. **B. compsa** (Jordan) (Pl. II. fig. 42).

*Pseudapiconoma compsa* Jordan, *Nor. Zool.* vol. xi. p. 441 (1904).  
*Pseudapiconoma stigmatica* Grünb., *D. Ent. Zeitschr.* 1907. p. 435.

24. **B. vitreata** (Rothsch.) (Pl. II. fig. 36).

*Pseudapiconoma vitreata* Rothsch., *Nor. Zool.* vol. xvii. p. 445 (1910).

25. **B. fenestrata** (Jordan) (Pl. II. fig. 35).

*Pseudapiconoma fenestrata* Jordan, *Nor. Zool.* vol. xi. p. 441 (1904).  
*Pseudapiconoma melacna* Hmps., *Ann. Mag. Nat. Hist.* (7) vol. xv. p. 426 (1905).

26. **B. rubrostriata** (Auriv.) (Pl. II. fig. 37).

*Metarctia rubrostriata* Aurivillius, *Ent. Tidskr.* vol. xix, p. 185 (1898).

27. **B. daphaena** (Hmps.) (Pl. I. fig. 19).

*Pseudapiconoma daphaena* Hmps., *Cat. Lep. Hel. Brit. Mus.* vol. i, p. 150 (1898).

28. **B. affinis** (Rothsch.) (Pl. I. fig. 20).

*Pseudapiconoma affinis* Rothsch., *Nor. Zool.* vol. xvii, p. 442 (1910).

29. **B. invaria** (Walk.).

*Anace invaria* Walker, *List Lep. Ins. Brit. Mus.* vii, p. 1720 (1856).

*Metarctia invaria* Hmps., *Cat. Lep. Hel. Brit. Mus.* vol. i, p. 146 (1898) (partim).

---

## NEW BORNEAN *AEGERIIDAE* AND *SYNTOMIDAE*.

By THE HON. W. ROTHSCILD, Ph.D., F.R.S.

AMONG a number of Heterocera submitted to us for identification by J. C. Moulton, Sarawak Museum, Borneo, the following Aegeriids appear to be new. The types are in the Tring Museum.

### FAMILY *AEGERIIDAE*.

#### 1. *Aegeria ruficrista* sp. nov.

♂. Head and thorax brownish black; antennae black; forelegs blackish brown ringed with white, middle legs dark brown, tarsi with one cinnabar red and two glittering blue bands; hindlegs, basal half black with grey-blue scaling, tibia and first joint of tarsi with a gigantic tuft of brilliant cinnabar red hairs with two black spots and some patches of blue scales, rest of tarsi black with three broad glittering blue bands; pectus bluish white; abdomen black-brown with narrow hairlike white rings on the edge of the segments.—Forewing black-brown with vitreous streak in cell and vitreous patch sealed partially with opalescent blue beyond cell.—Hindwing vitreous, with black-brown outer and opalescent blue inner-marginal band.

Length of forewing: 8.5 mm.

*Hab.* Rock Road, Sarawak, April 21, 1909.

#### 2. *Sphecia coeruleonitens* sp. nov.

♂. Head, thorax, antennae and abdomen black; forelegs black clothed with very long woolly hair except the last three joints of the tarsi; hindlegs with crest of hair along outer ridge of tibiae.—Forewing deep metallic glittering blue with black costa and washed with purple towards the apex.—Hindwing entirely metallic glittering blue.

Length of forewing: 21 mm.

*Hab.* Matang Road, Sarawak, January 18, 1910.

3. *Sphacia tricolor* sp. nov.

♂. Palpi and collar scarlet; head, antennae and thorax black; abdomen black with wood-brown anal tuft and wood-brown spots along sides.—Forewings black.—Hindwing semivitreous opalescent sky-blue, a very large tornal patch and fringes black.

Length of forewing: 19 mm.

*Hab.* Matang Road, Sarawak, October 30, 1909.

4. *Melittia auricollis* sp. nov.

♂. Palpi and antennae rufous orange; head rufous orange mixed with black; collar metallic golden; abdomen blackish steel-blue; forelegs with golden-brown tarsi and blackish tibiae and coxae; middle legs black with golden-brown dots on tarsi; hindlegs black with purplish tinted tufts.—Forewing metallic royal purple with some scattered green scales.—Hindwing yellowish vitreous with a large royal purple patch on apex of cell widening out over two-thirds of costal region; nervures and margins purple.

Length of forewing 12 mm.

*Hab.* Mt. Penrissen, Sarawak, 3300 ft., November 14, 1909, and Ulu Lawas, August 31, 1909.

FAMILY SYNTOMIDAE.

5. *Trichaeta biplagiata* sp. nov.

♀. Head, thorax, and abdomen black; antennae black, with buff tips.—Forewing black, a subbasal, square, semivitreous patch below median vein, a larger patch at end of cell divided into four by the nervures, and extending from vein 2 to subcostal.—Hindwing blue-black.

Length of forewing: 13 mm.

*Hab.* Kiesin Hills, Sarawak, July 21, 1909.

6. *Trichaeta albifrontia borealis* subsp. nov.

Differs from *albifrontia albifrontia* in the absence of the upper subbasal white patch and the smaller size of the spot on hindwing.

*Hab.* Limbang, April 1909; in my collection also from Tnton, North Borneo, May 1895 (A. Everett).

7. *Amata leucozonoides* sp. nov.

♀. Differs from *leucozona* Hmps. in having the semivitreous white spots of the forewing much larger, and in the large spot in cell, and the absence of the spot near tornus.

Length of forewing: 25 mm.

*Hab.* Kuching, Borneo, June 1900.

8. *Eressa syntomoides* sp. nov.

♀. Frons white; rest of head, antennae, and thorax dark brown, shoulders white; abdomen dark brown, basal segment and lateral rows of spots white.—Forewing sooty brown, a large subbasal and a second smaller discal spot below median nervure semihyaline white, a similar spot in cell and postmedian band

of five spots.—Hindwing sooty grey, a subbasal patch and two beyond cell semihyaline white.

Length of forewing : 21 mm.

*Hab.* Trusan, Sarawak, November 1902.

The following two forms in my collection are likewise undescribed :

9. ***Eressa syntomoides hosei*** subsp. nov.

♂ ♀. Similar to *s. syntomoides*, but smaller and darker; ♂ has two instead of one semihyaline spot in cell, and abdomen ringed with white.

Length of forewing : ♂ 15 mm., ♀ 19 mm.

*Hab.* Mt. Dulit, North Borneo, February—March 1894 (Hose).

1 ♂, 3 ♀ ♀ (may be distinct species).

10. ***Eressa marcescens ericssoni*** subsp. nov.

♂ ♀. Differs from *m. marcescens* Feld. in the much paler mouse-grey colour, wider wings, and much larger  $\frac{2}{3}$  vitreous patches.

*Hab.* Padang Sidempoean, West Sumatra (Ericsson).

1 ♂, 4 ♀ ♀.

11. ***Eressa vespina*** sp. nov.

♂. Differs from *vespa* Hmps. in the smaller size, absence of yellow collar and thoracic stripes, only sides of tegulae yellow, in the yellow belts of abdomen being much narrower and paler, and last segment wholly brown. It also differs in having the tornal patch not extended along veins 2 and 3 to median vein, and in the border of hindwing being quite narrow and uniform, not broadly expanded at apex.

Length of forewing : 10 mm.

*Hab.* Matang Road, Kuching, October 5, 1903, and July 6, 1909.

12. ***Eressa? sexpuncta*** sp. nov.

♂ ♀. Head, antennae, and thorax sooty black; abdomen sooty black, basal and penultimate segments dirty white.—Forewing sooty black, with two ante-median and two postmedian hyaline white spots.—Hindwing sooty black, with a small subbasal and a large median hyaline white spot.

Length of forewing : ♀ 14 mm., ♂ 9 mm.

*Hab.* Limbang, April 1910, and Ulu Lawas, Sarawak, September 1909.

---



## NEW MAURETANIAN MOTHS.

BY THE HON. W. ROTHSCHILD, PH.D., F.R.S.

## BOMBYCES.

1. *Lymantria nisseni* sp. nov.

♀. Head and antennae yellowish grey-brown; thorax grey-brown powdered with black; abdomen yellowish grey-brown.—Forewing yellowish grey-brown, powdered with black scales, a black streak below, and one in cell, a discocellular black ring, two postmedian transverse zigzag black lines, and fringe chequered faintly with black.—Hindwing pale yellowish grey-brown, outer half powdered with black scales, a discocellular stigma and submarginal band indicated by stronger and denser black powdering.

Length of forewing: 20 mm.

*Hab.* Khenchela, Algeria, June 28, 1911 (Victor Faroult). 1 ♀.

## NOCTUIDAE.

2. *Agrotis nisseni* sp. nov.

♀. Palpi black-brown; head, antennae, and thorax pale wood-brown; abdomen pale yellowish wood-brown.—Forewing wood-brown, somewhat clouded with rufous in median area; a sooty subbasal, transverse, hair-like, convex line, a black spot beyond it, and two antemedian transverse, sooty, irregular hair-lines, the two stigmata large and somewhat faint, appearing only in outline; two postmedian, transverse, sooty hair-lines, the outer composed of dots; between the latter and the margin a transverse line of black coalescent spots.—Hindwing brownish grey, fringe rosy brown.

Length of forewing: 24 mm.

*Hab.* Ain Draham, Tunisia (V. Faroult). 1 ♀.

3. *Antitype discalis* sp. nov.

♂. Head wood-buff; antennae serrate, pale yellowish brown; thorax wood-buff, powdered with grey; abdomen grey, slightly powdered with buff, and tuft dull buff.—Forewing bright wood-buff, with a large wedge-shaped patch of dark sooty grey occupying nearly entire disc of wing, and running to base in costal area; this patch is edged with black dots, and there is a wide indistinct grey submarginal band.—Hindwing creamy white, with central curved indistinct brown line.

Length of forewing: 20 mm.

*Hab.* Batna, Algeria, September 1910 (V. Faroult). 1 ♂.

4. *Antitype hagar* sp. nov.

This species is allied to *A. rebecca* Stgr.

♂. Palpi and head greyish wood-brown; antennae very strongly serrated, orange wood-brown; thorax greyish wood-brown; abdomen pale yellowish wood-

brown.—Forewing yellowish wood-brown, with four irregular dark grey zigzag lines across wing, and a submarginal, indistinct, grey band of arrow-head spots.—Hindwing pale brownish wood-yellow, with a slightly darker median and submedian band.

Length of forewing : 20 mm.

*Hab.* Bon Saada, Algeria, April 19—23, 1911 (V. Faroult). 1 ♂.

##### 5. *Eublemma mozabitica* sp. nov.

♀. Head white ; antennae grey ; thorax pale grey ; shoulders white ; abdomen mouse-grey.—Forewing lavender grey, basal half powdered with brown scales, a median golden bronzy brown, transverse band bordered broadly outside with white ; a postmedian similarly coloured strongly zigzag band edged outwardly with silver grey ; a white submarginal band.—Hindwing pale mouse-grey, with white submarginal band, basal third darker, and a band of dark mouse-grey running in from tornus to vein 4.

Length of forewing : 11 mm.

*Hab.* Ghardaia, Mzab Valley, Algeria, April 19, 1911 (W. Rothschild and E. Hartert). 3 ♀♀.

##### 6. *Spintherops roseata* sp. nov.

♂. Head and thorax bright rosy wood-brown ; antennae brown ; abdomen brownish grey-white.—Forewing bright rosy wood-brown, slightly powdered with grey scales ; a row of six black spots on costa ; an antemedian and a median serpentine, transverse, narrow blackish band ; a sooty stigma, and an interrupted black, zigzag, transverse postmedian band ; a thin, sooty marginal hair-line.—Hindwing brownish grey-white on basal half, dark sooty mouse-grey on outer half ; a dark grey median band, and fringe whitish.

Length of forewing : 19 mm.

*Hab.* Ghardaia, Mzab Valley, Algeria, April 20—22, 1911 (W. Rothschild and E. Hartert), 2 ♂♂ ; El Kantara, South Algeria (W. R. and E. H.), 4 ♂♂.

#### GEOMETRIDAE.

##### 7. *Crocalis fuliginosa* sp. nov.

♂. Head and thorax wood-grey ; antennae pale brown ; abdomen yellowish wood-grey.—Forewing pale wood-grey, powdered slightly with darker grey ; a central band of sooty black occupying the central third of wing, widest at costal half, where it is powdered densely with brown-grey, showing a distinct black stigma.—Hindwing wood-grey, with dark sooty grey sinuous median band.

Length of forewing : 22 mm.

*Hab.* Batna, Algeria (Nelva coll.).

##### 8. *Fidonia nelvae* sp. nov.

♀. Head and thorax brown, powdered with yellowish white scales ; antennae whitish ; abdomen dark brown, with central pale stripe, and powdered with yellowish white.—Forewing yellowish white, banded with five irregular dark

brown bands, and in basal half with brownish freckles.—Hindwing duller and dirtier yellowish white, banded and clouded with dark brown.

♂ similar, but much more clouded, and markings much less distinct.

Length of forewing : 12—15 mm.

*Hab.* Batna, Algeria (Nelva coll). 4 ♀♀ 1 ♂.

9. **Hemerophila harterti** sp. nov.

♂. Head, thorax, and abdomen dark brown ; antennae pale brown.—Forewing reddish wood-brown, with five more or less oblique dark brown bands ; a black oblique band from apex to middle of inner margin ; a stigmatic black dot and a pale wood-brown patch at apex.—Hindwing paler rufous wood-brown, with slight darker shadow lines in basal third ; discocellular dot ; two postmedian dark brown transverse bands ; a black, hair-like marginal line, and pale fringes.

Length of forewing : 18 mm.

*Hab.* El Kantara, South Algeria, March 25, 1911 (W. Rothschild and E. Hartert). 2 ♂♂.

10. **Cidaria bertrandi** sp. nov.

♂. Head, thorax, and abdomen greyish yellow-buff, mixed and powdered with black, and covered with a number of zigzag brownish transverse hair-lines ; a broad median dark grey transverse band occupies central third of wing, within which are again a number of zigzag darker hair-lines.—Hindwing wood-grey, with faint darker shadowy hair-lines.

Length of forewing : 14 mm.

*Hab.* El Kantara, South Algeria, March 21, 1911 (W. Rothschild and E. Hartert). 4 ♂♂.

---

SOME NEW *SPHINGIDAE*.

BY THE HON. W. ROTHSCCHILD AND K. JORDAN.

1. *Praedora marshalli tropicalis* subsp. nov.

♂. Major quam *P. m. marshalli* R. & J. (1903), corpore et alis anticis colore nigro magis extenso, palporum segmento 1<sup>o</sup> atque alarum posticarum dimidio basali pallidioribus.

Long. al. ant. 23 mm.

3 ♂♂ from Uganda, in Mus. Brit.

The upperside of the thorax and abdomen more extended black than in *P. m. marshalli* R. & J., *Nov. Zool.* ix. Suppl. p. 50. tab. 5. fig. 16. ♂ (1903), from Mashonaland and N'Gami, the patagia being almost entirely deep black. The first segment of the palpi has the ventral edge and the inside cream-colour, the base of the second also being more or less of the same colour. The blackish rings on the hindtibia are somewhat more distinct than in *P. m. marshalli*. The interspace between the two discal lines of the forewing is more or less filled in with black, so that a large black or blackish patch surrounds the apex of the cell, joining the antemedian lines below the cell; upon this patch or cloud follows a fawn-coloured band, which is diffuse on the proximal side and bounded by a black and irregularly undulate line on the discal side; before the margin a row of black anguliform spots; the apex suffused with black, the fringes spotted with grey. Hindwing clayish buff proximally, blackish distally, with an indistinct blackish band on the disc and another before the margin.

2. *Polyptychus spurrelli* spec. nov. (Text-figs. 1 and 2.)

♂. *P. retusus* R. & J. (1908) simillimus, sed thorace sine stria fusca mediana et armatura copulatrice valde diversa distinguendus.

Long. al. ant. 33 mm.

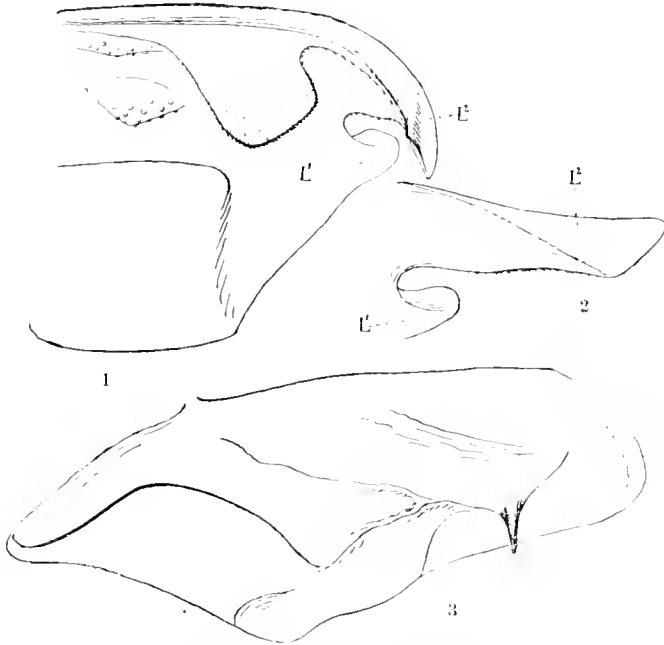
1 ♂ from Bibianaha, Gold Coast, 70 miles N.W. of Dimkwa, 700 ft., October 17, 1909 (H. G. F. Spurrell), in Mus. Brit. Named in honour of the collector.

The body and wings are drab grey both in this species and *retusus* R. & J., *Nov. Zool.* p. 259. n. 3 (1908), and the markings of the wings are almost exactly the same in the two species. In *spurrelli*, however, there is no blackish median stripe on the head and thorax, and the forewing is a little broader, with the apex a trifle less produced than in *retusus*. Fore- and midlegs as in *retusus* (hindlegs wanting). Abdomen without spines, scales narrow.

Forewing, on the *upperside*, with a small but conspicuous black-brown subbasal dot; between this dot and the small clayish discocellular dot three undulate lines curving costal in front, on the disc three similar lines followed at some distance by a fourth, all accentuated at the costal and inner margins; a row of faint submarginal dots commences with a rather large subapical, costal, somewhat diffuse and triangular blackish spot; fringes fuscous.—Hindwing darker than forewing, with an elongate blackish patch in front of the abdominal margin, a small blackish anal spot preceded by a faint, short, anguliform line and a row of extremely weak submarginal dots.

On *underside* broccoli-brown, the distal margins of both wings greyish white; on the forewing a submarginal row of blackish vein-dots and proximally to this row two brown lines and traces of two others.—Hindwing with a faint clayish tone; between apex of cell and distal margin four lines; anal angle blackish.

Eighth tergite on inner side without a belt of friction-scales, and the claspers without a patch of modified scales, both the belt and the patch being present in *retusus*, the former being visible in that species without dissection. Anal tergite tapering to a point; sternite absent as a distinct sclerite. Clasper short and broad (text-fig. 1), apically divided into a short rounded lower lobe ( $L^1$ ) and a long dorsal one ( $L^2$ ). This dorsal lobe is curved ventrad and also mesiad. Text-fig. 2 gives a view of the apex of the clasper from a basal direction, so that the upper and lower



FIGS. 1 and 2.—*Polyptychus spurrelli*.

FIG. 3.—*retusus*.

edges of the long lobe are in a plane. From the upper edge of the clasper a broad truncate and denticulate lobe projects obliquely ventrad, the edge of this lobe being continued distad and extending as a low ridge diagonally across the long apical lobe. The penis-sheath, which in *P. retusus* bears a very long recurved process, has a broad oblique belt of teeth in *spurrelli*, the belt being open on the shorter and less strongly chitinised side of the sheath.

The clasper of *P. retusus* R. & J. (1908), which we figure for comparison (text-fig. 3), is much longer and narrower than in *P. spurrelli*; its apical margin is but feebly chitinised, somewhat swollen and very densely scaled; the armature consists of a conical thornlike process which lies partly concealed in the scaling of the ventral margin and projects from a ridge as indicated in the figure. The anal tergite of *retusus* is much more sharply pointed than in *spurrelli*, and there is in

that species a triangular, mesially incised sternite which bears two hairy longitudinal folds on the under surface.

### 3. *Polyptychus cymatodes* spec. nov. (Text-fig. 4).

♂. *P. falcato* R. & J. (1903) similis, major, antennis multo brevioribus gracilioribusque, alarum anticarum lineis transversis multo magis undulatis seu dentatis, linea discali cellulæ subapproximata valde erenata.

Long. al. ant. 39 mm.

2 ♂♂, one from Ilesha, S. Nigeria, *type* (L. E. H. Humfrey), the other from Bibianaha, Gold Coast, 70 miles N.W. of Dimkwa, 700 ft., November 27, 1910 (H. G. F. Spurrell); in Mus. Brit.

Grey, the palpi, underside of forewing and upperside of hindwing more or less washed with fuscous, as is also the upperside of the forewing from the inner discal line to the margin. Body stout, without markings. Antenna of the same type as in *P. retusus* R. & J. (1908), short and slender for such a large insect, almost setiform, prismatical, the sides not dentate. Palpi a little smaller than in the ♂ of *falcatus* R. & J. (1903), much less broad distally than in *retusus*, joint open. Tongue short and slender, if rolled up not visible between the palpi. Legs as in *falcatus*, the spurs being very much longer than in *retusus*.

Forewing more strongly falcate than in *falcatus* ♂, the distal margin excised in front of vein M<sup>2</sup>, hind angle more strongly lobate than in *falcatus*; subbasal double dot small; a band of three antemedian transverse lines as in *falcatus*, but the lines more broken at the veins; disco-cellular spot faint; the interspaces between the three proximal discal lines narrow and filled in with fuscous, so that a narrow fuscous band is formed, which is, on the proximal side, rather deeply indented on all the veins and much more sharply defined than on the distal side; about halfway between the proximal edge of this band and the distal margin a dentate line, followed nearer the margin by a row of faint dots; the markings at the excision of the hindmargin not quite so prominent as in *P. marinus* Roths. (1904).—Anal angle of hindwing more produced than in *falcatus*, at M<sup>2</sup> a distinct tooth; a dentate median line and halfway between it and the distal margin a more strongly dentate one, both about parallel with the margin; at anal angle traces of two more lines and further costally some faint submarginal dots; fringes pale.

*Underside* with dentate lines in the outer half, as usual in this group of species; on the forewing three discal ones near one another, rather diffuse and almost straight, the inner one of them slightly curving distad at the costal margin and the outer one costad, the interspace between this band of lines and the postdiscal line not quite so wide as the interspace between the first and third discal lines, distal margin grey, this colour almost sharply bounded anteriorly by SC<sup>5</sup>.—Hindwing paler than forewing, with a row of minute submarginal dots and two fairly prominent lines, between which there are traces of two more lines.

Eighth abdominal tergite without a ribbon of friction-scales inside, the clasper likewise without friction-scales. Anal tergite almost gradually narrowed, being an elongate-triangular process, distinctly curved downward in the centre and then gently upward, the tip, which is rounded-truncate, being slightly bent down again; the upper surface with a deep median groove from the base to beyond the centre; the underside of the process convex. Anal sternite absent as a distinct sclerite. Clasper (text-fig. 4) long and narrow, strongly widened basally on the ventral side;

a longitudinal fold ends near the middle of the ventral margin in a sharp spinelike tooth, a similar tooth stands farther distally, and the apex of the clasper is also modified into a sharp long spinelike process, this process and the second tooth are strongly curved; the dorsal edge of the clasper bears several small spinelike teeth. The penis-sheath has no special armature; the longer side is distally incrassate, but does not bear teeth, and, although prolonged, is not produced into a free process projecting much beyond the edge of the orifice.

The genital armature of the second ♂, from the Gold Coast, somewhat differs in detail. The anal tergite is less incurved centrally and tapers more gradually, especially at the apex, which is rather broader than in the type. The second tooth



FIG. 4.—*Polyptychus cymatodes*.  
 " 5.— " *falcatus*.

of the clasper is not longer than the first and hardly at all curved; the apex of the clasper is less prolonged and much less curved than in the type; on the other hand the clasper is broader before the apex and the dorsal teeth are much larger than in the type.

Having only one specimen from each locality, it is impossible to say whether these differences are individual or geographical.

The genital armature of *P. falcatus* agrees with that of *cymatodes* only as regards the penis-sheath and the absence of friction-scales on the clasper and the inside of the eighth tergite. The anal tergite pointed; the sternite a low but

distinct transverse ridge, brown at the edges, mesially divided. Clasper (text-fig. 5 widely different from that of *cymatodes*, being broad and short, ventrally angulate, apically rounded with the edges swollen and but feebly chitinised, apical two-thirds of inner surface very densely covered with long hair-scales; from the upper margin near the base projects a very long gradually tapering process curving distad and downward, being hairy beneath.

#### 4. *Polyptychus molitor* spec. nov.

♀. Subalbus, alis anticis corporeque subtus pallide luteis, tibiis tarsisque pallide ochraceis; alis anticis lineis quatuor transversis fulvo-olivaceis rectis fere parallelis ornatis, apice parum producto, margine distali in medio convexo; posticis duabus lineis obsolescentibus notatis.

Long. al. ant. 43 mm.

♀ from Ibi, Benue R., N. Nigeria (H. A. Foy); in Mus. Brit.

Clayish cream-colour, the sides of the body almost white; the tibiae and tarsi of a pale ochraceous tone. Palpi small, second segment hardly broader than first, a little longer than wide (lateral aspect), third segment two-thirds the second in length as well as width, joint slightly open. Antenna prismatic, with long seriated cilia; the segments dorso-laterally rounded-dilated, therefore the antenna festooned (= inversely crenate) in a dorsal view. Tongue very weak and short. Tibiae spinose, the spines numerous, excepting the upperside of the hindtibia, which bears hardly any spines; longest spur of hindtibia about two-fifths the length of the first hindtarsal segment. Abdomen above with numerous weak, pale ochraceous spines at the edges of the segments, such spines being also found on the surface of the segments underneath the scaling.

Forewing pointed, the distal margin concave below the apex and less so in front of the hind angle, being convex from  $SC^5$  to near  $M^2$ ; four tawny-olive lines cross the wing from the costal to the hind margins, all narrow, well-defined and straight, only the fourth being very feebly bent outward before the centre, line 1 placed proximally and line 2 distally to base of  $M^2$ , distance between these two lines 5.5 mm. at anterior margin of cell and 3 mm. at hind margin of wing, lines 3 and 4 parallel, 3 crossing subcostals at point of origin of  $SC^5$  and reaching hind margin 26 mm. from base, line 4 being 5 mm. distant from line 3; distal margin washed with fuscous; on discocellulars an inconspicuous pale dot.—Hindwing likewise entire, with two very faint parallel lines from abdominal margin forward, disappearing in front, the inner one close to lower angle of cell.

*Underside* differs from upper especially in the absence of the two proximal lines on the forewing; the two discal lines are a little more curved than above and also more distal in position; the distal marginal area not washed with fuscous.—The lines of the hindwing distinct, the inner one nearly 2 mm. distant from cell, more strongly curved costally than the outer one, anal angle slightly washed with fuscous tawny; extreme edge of both the fore- and hindwing (not the fringes) pale tawny ochraceous; lower angle of cell of hindwing less produced than in *P. falcatus*, *retusus*, and allied species.

#### 5. *Marumba juvenus* spec. nov. (Text-fig. 6).

♂♀; *M. dyradi* Walk. (1856) signaturis similis, antennis setiformibus brevioribus et gracilioribus. Alis anticis angustioribus margine distali longiore,



alis posticis nigro-brunneis absque colore fulva; anticis subtus area apicali nigro-brunnea bene expressa.

Long. al. ant. 48—50 mm.

2 ♂♂ from the Malay Peninsula (Malay States), *type*, received from Messrs. Staudinger and Bang-Haas, 1 ♂ from Bau Presidency, Sarawak, collected by H. S. Young, in whose honour we name the interesting species, and 1 ♀ from Batang Proepoe, Padang Bovenlanden, West Sumatra; in Mus. Tring.

♂. The forewing agrees in shape more with that of *M. spectabilis* than with the forewing of *M. dyras*, being obviously narrower than in the latter, with a longer and more oblique distal margin; the ground-colour is a more uniform and darker wood-brown, while the lines are the same as in *dyras*. The hindwing is blackish burnt-umber-colour, with the costal area and a large anal patch pale wood-brown, the tawny tone of *dyras* being entirely absent.

On the *underside* each wing bears two prominent lines, while the other lines are faint; the apical area of the forewing and the anal patch of the hindwing are dark burnt-umber-colour, as is also the underside of the palpi.

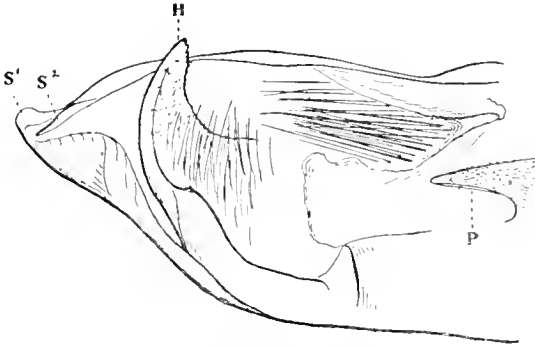


FIG. 6.—*Marumba juvenens*.

As regards structure, *juvenens* ♂ differs from *dyras* chiefly in the antenna and genitalia. The former are decidedly shorter and especially thinner. The anal tergite is longer than in *dyras*, and narrower in its apical two-thirds, the apex of the two lobes, however, being round as in *dyras*. The anal sternite is elongate-triangular, with the tip rounded off. The dorsal margin of the clasper (text-fig. 6) terminates in a dagger-like process ( $S^2$ ), which projects into the concavity of the inner surface of the broad apical lobe  $S^1$ . The harpe (H) is long and curved upwards, extending beyond the dorsal margin (of the denuded clasper). The double process (P) situated above the penis-sheath is rough with small teeth.

♀. Body and wings somewhat more clayish in tone than the ♂. The dorsal line on thorax and abdomen as well marked as in the ♂, and decidedly more prominent than in *dyras*. The *underside* of the wings much brighter than in the ♂, the apical area of the forewing and the anal marginal patch of the hindwing as large as in the ♂, but like the underside of the palpi rather brighter brown, the anal patch being wider than in *dyras*.

The genital armature almost exactly as in *M. dyras javanica* Butl. (1875), cf. R. & J., *Revis. of Sphingidae*, p. 276. tab. 18. f. 18 (1903).

6. *Macroglossum spilonotum* spec. nov.

♂ ♀. Olivaceo-brunneum, capite thoraceque vitta nigro-brunnea postice obsoleta notatis, patagiis etiam nigro-brunneis; abdomine in dorso duabus seriebus macularum nigrarum bene expressarum atque in lateribus duabus maculis flavis et tribus castaneis signato; corpore infra castaneo, palpis subfuscis. Aliis anticis lineis transversis nigris signatis, area marginali triangulari plus minusve nigra; posticis fascia flava media bene expressa angusta ornatis. Alarum pagina inferiore castanea, area abdominali alarum posticarum flava conspicua.

Long. al. ant. 31 mm.

A small series of ♂♂ from Mt. Goliath, Snow Mts., Southern Dutch New Guinea, January and February 1911 (A. S. Meek); in Mns. Tring.

The upperside of the head and thorax have a greyish tint, so that the median stripe as well as the large patch of the patagia stand out distinctly. The metanotum is dark brown excepting the centre. The third to seventh abdominal tergites bear each a pair of black spots at the base which are very prominent, the interspace between the two rows being 2.5 mm. wide; segment 8 has a black median spot; at the sides of segments 3 and 4 a transverse yellow spot, which is contiguous with a basal transverse black spot; at the sides of segment 2 some yellow hair-scales; the chestnut side-spots of segments 5-7 rather prominent; fan-tail of the same dark brown colour as the body; side-tufts of segments 3-6 tipped with white.

Underside of body dull chestnut. Second segment of palpi olivaceous; ventral border of eye white; abdomen without grey median patches. Antenna slender.

*Upperside* of forewing with the same greyish flush as the head and thorax; antemedian pair of lines curving basad posteriorly, and the posterior half of the space between them filled in with brownish black; no distinct discocellular spot; the pair of discal lines distinct, curving costad anteriorly; from the hind angle of the wing a diffuse black band extends forward to R<sup>2</sup>, being here continued basad so as to reach the inner discal line, and also apicad reaching the black submarginal spot which stands between the two lower subcostals, which spot touches the black marginal spot placed below the apex; the distal margin blackish brown; the costal area near apex brighter brown than the rest of the wing.—*Hindwing* brownish black; the yellow band slightly incurved, widest in front of the anal angle, almost of even width from the submedian fold forward, measuring 2.5-3 mm. in the centre, being narrower than the black basal area.

*Underside* chestnut, brighter than the body; forewing with a black submarginal line elbowed in the centre, and some indistinct discal lines; basal half shaded with fuscous.—*Hindwing* with three rather well marked brown lines on disc, base not yellow, the yellow abdominal area sharply defined, extending from near abdominal edge to submedian fold and almost reaching anal angle, the latter blackish.

Anal tergite of ♂ tapering, the tip moderately acuminate; anal sternite very slightly narrowing towards the apex, which is rounded. Clasper without friction-scales on outer surface; harpe slender, nearly reaching to middle of ventral edge of clasper, slightly curved upwards distally, the tip subacuminate. Process of penis-sheath lying along edge of orifice, encircling the same for about two-fifths, the proximal margin and tip of the process denticulate.

In facies recalling *M. semifasciata* Hamps. (1892).

7. *Hippotion aporodes* spec. nov.

♂. *H. celerioni* valde affinis, magis nigrescens, alis subtus dense nigro irroratis, alarum anticarum fascia fusca postdiscale late interrupta.

3 ♂♂ from Bibianaha, Gold Coast, 70 miles N.W. of Dinkwa, 700 ft., October and November 1909 (H. G. F. Spurrell); in Mus. Brit.

We do not find any structural difference from the ♂♂ of *H. celerio*, but the distinctions in colour are the same in all three ♂♂. The upper surface is a deeper brownish-black, the light spots on the sides of the abdomen are less pronounced, and the underside is darkened by dispersed black scales. The light band of the forewing is less silvery than in *H. celerio* and bears two brown lines. Outside this band there is in *celerio* an olive band in which a black line is situated that terminates at a black inner-marginal spot. This olive band is replaced in the new species by two lines, the proximal one being continuous and forming the outer border of the pale band, while the distal one is heavy from the apex of the wing to beyond R<sup>2</sup> and thence very thin. The discal band of the hindwing is narrow and brighter red than in *H. celerio*, the proximal red area having likewise a deeper tone than in that species.

On the *underside* the hindwing and the costal margin and disc of the forewing are much more prominently speckled with blackish olive, and the distal margins of both wings as well as the proximal two-thirds of the forewing are deeper olive than in *celerio*.

## ON THE TERM "SUBSPECIES" AS USED IN SYSTEMATIC ZOOLOGY.

BY THE HON. WALTER ROTHSCILD, Ph.D., F.R.S.

IN his *Études de Lépidoptérologie Comparée*, Fascicule V. (1<sup>re</sup> Partie) (1911), Monsieur Charles Oberthür has published (pp. 307-13) some notes by Monsieur Alphéraky on the terms employed or proposed by Monsieur Semenov Tian-Shansky in his work on "The Species and its Subdivisions." To these Monsieur Oberthür has written a preface "**Subspecies** and **Morpha**" (pp. 303-6).

I do not as a rule like to rush into print on "nomenclatorial questions" in the *abstract*, but I feel obliged here to join issue both with my friend M. Oberthür and with M. Alphéraky. M. Oberthür raises objections to the term **Subspecies** because, he says, it denotes "**species in the making**"—*i.e.* not yet completely dissociated from the parent **Species** or **Stock**. He declares that while, during the many years he has studied insects, he has found always "**Geographical Races**" and "**Individual Aberrations**," he has never been able to trace any species showing evolutionary change in progress. Moreover he is most emphatic that it is impossible to say which is the oldest of a number of *geographical races* of a single species; and that we cannot tell how a given species arose. What I wish to point out is that the term "**Subspecies**" is used by myself, and I think also by most modern systematic zoologists, to replace the term "**Varietas geographica**" and not *necessarily* to denote a "**Species in the making**." Monsieur Alphéraky, however, does

not object to the term "**Subspecies**" quite on the same grounds as Monsieur Oberthür. His objections take the line that as a substitute for "**Varietas geographica**" it does not express its meaning so clearly, and as a consequence of its modern use is likely to dangerously affect the stability of nomenclature. To this I have to reply that on the contrary I and most of those who employ "**Subspecies**" as a *systematic term* are contributing to lessen confusion. In the 160 or 170 years since the time of Linnaeus the term *varietas* has been indiscriminately used to mean either a "*geographical race*" or a mere "*individual aberration*." As Monsieur Alphéraky rightly says, Dr. Staudinger was the first modern systematist to, as it were, fix more strictly the meaning of "**Varietas**"; but although some of the more prominent **Palaeartic Lepidopterists** have more or less closely followed him, unfortunately *zoologists in general* have continued to misuse this term "**Varietas**" so much that it is almost impossible to clear up the confusion.

It is for this reason that I and most other modern systematists maintain that the terms "**Varietas**," "**Variety**," "**Varietat**," "**Variété**," must be excluded from our nomenclature as misleading, and we have substituted for them the two terms "**Subspecies**" and "**Aberration**" which cannot be mistaken one for the other. When Bates adopted the term "**Subspecies**" in 1861 I am of opinion that he meant it to convey the meaning of a "**Species in the making**," but I can certainly speak for myself, and I believe for most of the other users also, when I say that the term as now understood is merely a substitute for "**Varietas geographica**" and not at all *necessarily* used as meaning a species not yet quite fixed. I wish here also once more to emphasise that the acknowledged modern method of writing sub-specific names trinomially—thus, "*Papilio machaon hippocrates*"—has also been often most wrongly applied and understood. Trinomials can **alone** be used for denoting **Subspecies** or **Local Races**, **never** for **Individual Aberrations**, as has been done persistently by Monsieur Oberthür and many others.

---

FORMOSAN *ANTHRIBIDAE* COLLECTED BY H. SAUTER.

By DR. K. JORDAN.

THE only species of *Anthribidae* recorded from Formosa is *Sintor fasciatus* Jord. (1903). The collection made by Herr H. Sauter on that island and submitted to me by the Deutsches Entomologisches Museum in Berlin contains no less than thirty-one species. Two of them are represented only by an imperfect specimen each, not good enough for description or identification and therefore not mentioned in the following list.

As must be expected, some of the species are either identical with those known from Japan on the one hand and Tonkin on the other, or are modifications of them. The Anthribid fauna of China is hardly at all touched, only a very few forms being known from that country. Considering the number of species found in Japan, the present collection from Formosa no doubt represents only a fraction of the species which actually inhabit that island, but it contributes nevertheless so much to our knowledge of the distribution of this family that a list of the captures deserves publication.

The types of the new forms are in the D. Ent. Mus.

1. *Acorynus anchis* spec. nov.

♂♀. Niger, rostro et pagina inferiore corporis dense luteo tomentosis; prothorace fortiter punctato, longitudine latiore, supra vitta mediana angusta plus minusve interrupta, utrinque gutta discali atque tribus maculis lateralibus luteis signato; elytris area magna basali fere ad suturam medium extensa antice nigro maculata et area apicali magna lutea, macula transversa mediana dorsali in utroque elytro griseo-lutea notata; pedibus nigro-brunneis, tibiis luteo biannulatis, intermediis in ♂ ad apicem mucronatis, tarsorum articulo 1° apice luteo.

Long. (cap. excl.) 5·5—7·5 mm.

1 ♂ and 5 ♀♀ from Kosempo, Fuhosho and Taihorinsho.

Allied to *A. tonkinanus* Jord. (1904), but much less robust. Rostrum only  $\frac{1}{3}$  to  $\frac{1}{4}$  longer than broad, rather flat, with five prominent carinae. Frons narrowing anteriorly, in ♂ half the width of and in ♀ a little wider than the interspace between two dorsal carinae of the rostrum. Occiput with large brownish black triangular patch. Antennae rufescent at the joints, segments 8 and 10 very short. Carina of thorax laterally extending forward in an even curve, reaching to the middle of the side, straight dorsally; the puncturation of the prothorax above and beneath rather coarse; there is a transverse depression in front of the centre, but no channel; the clay median stripe is interrupted before the middle and widened at and behind the carina. The large basal luteous area of the elytra is truncate at the suture and consists of a number of confluent spots, the black interspaces between the spots being more or less large at and near the base; behind shoulder-angle a spot rather paler than the dorsal part of the clay area; the solitary median spot usually expands between interspaces 2 and 6 and is often broken up; the clay apical area bears on each elytrum a ramifying black spot and is somewhat produced forward at the suture. The clay pygidium has a diffuse black median stripe.

2. *Litocerus paviei* Lesne (1891).

1 ♂ from Fuhosho.

3. *Litocerus sticticus* Jord. (1904).

1 ♂ from Fuhosho and 1 ♀ from Kosempo.

Originally described from a single ♂ from Tonkin. The Formosan ♂ agrees well with the type, with the exception of the antenna, whose club is slenderer than in the type and shorter, segments 9 and 10 not being longer than 8. In the ♀ from Formosa 8 is much shorter than 9.

4. *Litocerus dysallus* spec. nov.

♂ ♀. *L. stictico* minor, maculis magis numerosis, elytris profundius striatis, tibiis griseo biannulatis, ♂ segmento 1° abdominali sine tuberculo.

Long. (cap. excl.) 5·5—6 mm.

3 ♂♂, 2 ♀♀ from Hoozan.

Above blackish brown, with yellowish grey markings. Frons anteriorly in ♂ narrower and in ♀ rather wider than the diameter of the first antennal segment. Segment 3 of antenna nearly half as long again as 4, this about as long as 9, 8 in ♂ one-third and in ♀ one-half shorter than 9, 10 shorter and 11 a little longer than 9.

The basal median spot of the pronotum continued forward to the transverse groove by a thin line, to which is joined at the carina a transverse line that extends to one-third the way between central line and sides, its ends projecting obliquely forward and outward, lateral carina bordered with yellowish grey, dorsal spots otherwise as in *L. sticticus*, puncturation distinct.

On the elytra a spot at basal third of interspaces 5 and 6 and another behind middle of 2, 3 and 4, as well as the spots at the lateral margin, larger than in *L. sticticus*; on the other hand, the rounded spot in middle of interspaces 7 and 8 of *L. sticticus* replaced in *dysallus* by a thin line or spot situated in stripe 7.

Upperside of tibiae grey at basal third and near apex.

5. *Litocerus bicuspis* spec. nov.

♂. Niger, supra cinereo maculatus, subtus totus cinereus. Rostro ad basin subcylindrico, quinque-carinato. Antennarum articulis 3<sup>to</sup>—8° clava distincta compressa multo gracilioribus, 9°—11° inter se subaequalibus, 8° duplo longioribus. Pronoto punctato, earinae angulo laterali fere recto apice rotundato. Abdominis segmentis 1° et 2° penicillo flaveseente mediano instructis. Tibiis griseo biannulatis.

Long. (cap. excl.) 6·5 mm.

3 ♂♂ from Fuhosho and Hoozan.

Head and rostrum cinereous, the central area of the occiput black, triangular, penetrating in between the eyes. The frons narrowing anteriorly, being here one-third narrower than the interspaces between the dorsal carinae of the rostrum. The latter basally thicker than usually, distinctly porrect, with the antennal grooves nearer the apex than the base. Segment 3 of the antenna nearly half as long again as 4, 4 to 6 slightly decreasing in length, 7 as long as 6 and longer than 8, which is half as long as 9 (= 11).

Pronotum punctate; between transverse groove and basal edge a median spot which is anteriorly tripartite, preceded by an apical ovate spot, an isolated small

spot at each end of the transverse groove, all grey with a slight yellowish tone, sides likewise broadly grey with or without a black spot between lateral carina and apical margin. The angle of the carina slightly obtuse, its apex rounded off. Elytra shorter than in the preceding species, depressed at the suture, strongly punctate-striate, all the markings sharply defined and prominent on the black ground, no long lines in the stripes, the spots on the declivous apical area not confluent, a spot situated between basal margin and subbasal callosity and a postmedian dorsal spot are the largest, next in size comes a marginal spot behind shoulder; the postmedian spot posteriorly incised in fourth interspace; there are on each elytrum about twenty to twenty-three spots altogether. Pygidium with a narrow grey lateral stripe. The two brushes of yellowish hair on the first and second abdominal segments are a very distinctive characteristic of this species. The upper side of the tibia is black for the greater part, except near the base and beyond the middle.

#### 6. *Litocerus communis* spec. nov.

♂ ♀. *L. crucicollis* Jord. (1895) statura similis. Rostro quinque-carinato. Antennarum (♂) articulis 5°—11° aequilongis, 3°—11° incrassatis. Pronoto lateribus minute punctato, carina rotundatim antrorsum flexa haud angulata. Segmento 1° abdominali (♂) tuberculo instructo.

Long. (cap. excl.) 5·3—7·6 mm.

A long series of both sexes from Taihorinsho, Fuhosho, Hoozan, Kosempo and Alikong.

Black, pubescent clayish grey, bases of proximal antennal segments reddish. Rostrum as in *L. crucicollis* Jord. (1895), but the frons broader in both sexes, narrowing anteriorly, being in ♂ somewhat wider than the first antennal segment, and in ♀ as broad as the interspace between the two lateral carinae of the rostrum. The brownish occipital area penetrates well in between the eyes. Segments 3 to 11 of antennae in ♂ of the same thickness, *i.e.* all being flattened, segment 3 gradually narrowing to the base, half as long again as 4, 5 to 11 slightly shorter and all of nearly equal size; in ♀ the club distinct and 3 one-fourth longer than 4, and 7 one-fourth longer than 8. The markings of the pronotum somewhat variable in extent; the mesial vitta strongly constricted at the transverse groove, at the ends of this groove a spot which is anteriorly connected with the vitta by a curved line, in front of the carina at each side of the vitta an oblique linear spot, lateral area of pronotum greyish yellow, its upper edge almost straight, but usually incised in the centre, at and in front of the lateral carina an irregular black line; the carina evenly curved forward at sides, not forming an angle. Elytra rather strongly striate, depressed along the suture, the greyish yellow lines and spots more or less merged together at the base and apex, an ante- and a postmedian space black and enclosing a greyish yellow spot, which extends from interspaces 2 to 6 and is twice sinuate behind.

Underside uniformly yellowish grey, without black spots on abdomen. Femora with the exception of a postmedian spot and the tip, an antemedian ring on the tibiae, the base of tarsal segment 1 and nearly the entire segment 2 yellowish grey.

#### 7. *Tropideres roelofsi poecilus* subsp. nov.

♂ ♀. Vitta mediana prothoracis lata, elytrorum macula anteriore nigra antice valde obliqua, macula posteriore ad striam quartam extensa, inter hanc maculam et

suturam macula minuta, tibiis ante et post medianum annulo luteo notatis, inter hos annulos cinnamomeis. Omnibus maculis nigris luteo-marginatis.

4 ♂♂ and 3 ♀♀ from Fuhosho and Hoozan.

Darker red-brown than *T. v. roelofsi* Lewis (1879), the black markings smaller, the median vitta of the pronotum and the interspace between the two large black patches of the elytra broader. The postmedian spot, which stands isolated in the third interspace in *pocillus*, is united with the black postmedian patch in *roelofsi*.

#### 8. *Tropideres signellus* spec. nov.

♂♀. *T. roelofsi* affinis. Niger, densissime griseo-luteo tomentosus, pronoto duabus vittis dorsalibus atque nonnullis guttis lateralibus nigris signato, elytris duabus fasciis ad suturam constrictis irregularibus et maculis basalibus apicalibusque nigris notatis; tibiis basi apiceque nigris, tarsis nigris, articulo 1° fere toto griseo-luteo.

Long. (cap. excl.): 5 mm.

3 ♂♂ and 3 ♀♀ from Fuhosho.

The chitin is rufescent at those places which are covered with a dense clayish pubescence, the antennae also being slightly rufescent at the joints. Structure of head and rostrum almost exactly as in *T. roelofsi*, but the eyes dorsally a little more rounded, therefore the frons more regularly triangular. The antennae a little slenderer. The luteous pubescence is palest along the black markings. The two black dorsal stripes of the prothorax are about the same size as the luteous median stripe, the latter is narrow at the apex, then rounded-dilated, narrowed and again rounded-dilated, the black stripes being correspondingly narrowed where the median stripe is widened; a luteous spot in each black stripe in the transverse depression; the luteous sides with two black spots one behind the other, the base also bearing a black spot above the lateral angle. Elytra more strongly punctate-striate than in *T. roelofsi*, with the following black markings: a spot on shoulder, a smaller one behind shoulder in interspaces 6 and 7, a third on the basal callosity, a sutural spot in the autemedian depression, a subapical spot resembling the letter  $\gamma$ , and two transverse bands, the anterior band in the middle, strongly widened at the sides and trifid, strongly narrowed at the suture and here curved backward, the second band narrower and more dentate, not divided laterally, but similarly narrowed at the suture and curved back as the first band. Pygidium with a black median stripe.

#### 9. *Tropideres japonicus* Roel. (1879).

A small series from Hoozan and Fuhosho.

#### 10. *Cadus diversus* Jord. (1911).

A small series from Fuhosho and Taihorinsho.

#### 11. *Mucronianus triodes* spec. nov.

♂♀. Niger, luteo-cinereo tomentosus, antennis pedibusque pro parte rufescentibus. Rostrum planum utrinque carina distincta, in medio carina fere obsoleta instructum, cum fronte luteo-cinereum. Oculi in ♂ antice contigua. Antennarum segmentum 3<sup>um</sup> quarto dimidio longius, 10<sup>um</sup> latitudine dimidio longius, 11<sup>um</sup> ovatum. Prothorax longitudine fere duplo latior, minutissime densissime rugato-granulosus, pronoto brunneo signatura discali in forma ercis et macula dorsali laterali cinereis



notato, apice ad latera et carina fere tota cinereo marginatis, carinae angulo laterali fere recto apice rotundato. Elytra cylindrica, brevia, signaturis bene expressis brunneis ornata. Pygidium rotundatum.

Long. (cap. excl.) 3.2—3.8 mm.

2 ♂♂ and 1 ♀ from Hoozan and Taihorinsho.

The first and eighth segments of the antennae are pale rufous like the bases of the other segments of the shaft and of segment 9. The lateral angle of the pronotal carina is a little more than 90°. The markings of the elytra are as follows: behind the base a narrow transverse band composed of two half-rings open in front, together resembling the figure 3 and extending from the first stripe (the first basal sutural interspace being cinereous) to the shoulder and then running to the lateral margin below the shoulder; in the middle a transverse band composed of a sutural spot and a dorsal one on each elytrum, all three rounded-oblong and connected with one another by a narrow bridge, the band thus formed continued laterally to the margin by an oblique anterior branch and a broader oblique posterior one; in front of the apex of each elytrum a ring from the side of which a projection runs obliquely posticad, a second lateral projection usually connecting the ring anteriorly with the median band.

#### 12. *Mucronianus* (?) *repandus* spec. nov.

♀. Nigro-brunneus, cinereo pubescens, supra nigro-brunneo variegatus, signaturis bene expressis, antennis pedibusque ex parte rufescentibus; rostro brevi inflexo; fronte capitis convexa, oculis magnis rotundis; prothoracis carina in dorso leviter convexa, angulo laterali subaucto; elytris in dorso subdepressis.

Long. (cap. excl.) 4.5 mm.

1 ♀ from Fuhosho.

The head and rostrum similar in shape to that of *Directarius* and *Ormiscus*.

Rostrum very short, depressed, directed down- and backward, grey, apex rufescent. Eyes bordered with grey. Frons about one-fifth the width of the rostrum. Segments 1 and 2 of antenna pale rufous, the others blackish brown, 3 one-third longer than 4, 4 to 8 slightly decreasing in length, club moderately broad, 9 = 11, one-third longer than 8, 10 = 8 in length. On pronotum the disc brown, on each side with two projections into the grey lateral area, in front of scutellum a grey spot which is continued forward by an elongate lozenge-shaped spot; angle of carina less than 90°, with the tip rounded, the lateral carina extending to near middle. Elytra with a large brown area extending from the sides to stripe 3 and from the basal callosities to beyond two-thirds, a broad curved bar across the middle of the suture connecting the brown areas of the two elytra, on each elytrum the area encloses a lateral, an antemedian and a postmedian grey spot, the area moreover being produced anad midway between suture and margin and widened on the apical declivity to near suture. Apex of pygidium truncate-rotundate. Legs without markings.

#### 13. *Nessiara mosonica* Jord. (1904).

4 ♂♂ from Hoozan and Fohosho.

#### 14. *Apatenia infans* spec. nov.

♂. Nigra, tomento griseo et brunneo-nigro tecta, antennis pedibusque pro parte rufescentibus, macula magna antescutellari luteo-alba. Rostrum breve, carina mediana instructum. Pronotum longitudine latius, dense punctatum, lateribus in

medio ampliatis, carina dorsali convexa, laterali flexuosa, angulo laterali recto apice rotundato. Elytra grosse punctato-striata, inaequalia, utraque in dorso tribus tuberculis sat altis instructa.

Long. (cap. excl.) 4.5 mm.

1 ♂ from Hoozan.

The head bears a minute white dot anteriorly between the eyes and another on the occiput, and is coarsely punctate-rugate like the rostrum. The spot at the base of the pronotum is widest at the carina, and there is a small round spot in front of it. The pronotum is uneven like the elytra and especially distinguished by its great breadth; the dorsal carina is very feebly angulate in the centre. The tibiae and tarsi are for the greater part reddish brown.

Most nearly resembles *A. tenuis* Jord. (1903) from Sumatra, but in that species the prothorax is longer than broad.

#### 15. *Phaulimia grammica* spec. nov.

♂. *Ph. rufescenti* similis, robustior, elytris luteo lineatis, fasciis ante- et postmedianis incompletis luteis atque macula rotunda suturali antemediana brunnea ornatis.

Long. (cap. excl.) 4—4.5 mm.

4 ♂♂ and 2 ♀♀ from Hoozan and Kosempo.

Probably a subspecies of *Ph. rufescens* Jord. (1894); the ♂ with two tubercles on the last abdominal sternite, as in *rufescens*. The pronotum similar to that of *Ph. lineata* Jord. (1895), but the angle of the carina more rounded, the markings differing from those of *rufescens* especially in the presence of a spot before the centre, which spot forms a more or less complete halfring with the dorsal spots placed in front of the carina. The basal callosity of the elytra is brown, with one or two luteous lines, behind the callosity there is a luteous patch as in *rufescens*, and on the suture a round brown spot in between the two patches; the postmedian luteous spots are either separate or form a zigzag band; all the interspaces bear luteous stripes, the striping, however, not being so regular as in *Ph. lineata*.

#### 16. *Directarius incisus* Sharp (1891).

1 ♀ from Taihoriusho.

Originally described from Japan as a *Tropidères*.

#### 17. *Nerthomma aplota* spec. nov.

♂♀. Nigra, supra griseo et brunneo variegata, subtus grisea. Antennae in ♂ compressae sat fortes, in ♀ graeciles, clava in utroque sexu brevi, segmento 3<sup>o</sup> quarto longiore, 4<sup>o</sup>—8<sup>o</sup> inter se aequalibus. Frons capitis dimidio rostri latitudinis subaequalis. Carina prothoracialis ad latera leviter antrosum flexa. Elytra densius griseo signata quam in *N. stictica* Pasc. (1860).

Long. (cap. excl.) 4—6 mm.

A series of both sexes from Fuhosho and Kosempo.

In facies very similar to the Malayan *N. stictica* Pasc. (1860), but the frons is broader, almost equalling half the rostrum in width even in the ♂, and the carina of the prothorax is less produced forward at the sides. The markings essentially the same as in *N. stictica*, the grey pubescence rather more extended and the markings less clearly defined.

18. *Exillis longicornis* Pasc. (1860).

A small series from Fuhosho.

19. *Habrissus longipes formosanus* subsp. nov.

♂ ♀. Antennarum segmentorum 9<sup>a</sup>, 10<sup>a</sup>, 11<sup>a</sup> latera non congruentia; prothorax supra et infra minus punctatus quam in *H. l. longipes* Sharp (1891).

Sharp described the species as a *Tropideres*. The specimens from Formosa agree well with the Japanese examples except in the club of the antennae being asymmetrical, and the punctures of the prothorax sparse and shallow. The midtibia of the ♂ bears an obtuse apical spur.

20. *Xylinades impressus stibinus* subsp. nov.

♂ ♀. *X. impresso* Jord. (1895) similis, sed pronoto rugato-granulosa, elytrisq; minutius punctatis.

A long series of both sexes from Hoozan, Kosempo, and Fuhosho.

The tawny ochraceous or greyish clay-coloured pubescence is more extended than in true *impressus* from North India, and the sculpturing of the thorax and elytra is less coarse. The two grooves on the pronotum form a horseshoe, but do not meet anteriorly; the granules and transverse folds of the pronotum are as high as in *impressus cerus*, but the grooves between them are less deep and large than in that subspecies. The punctures in the basal half of the elytra are also smaller than in the Indian form, and the interspaces between the punctures of the same row less elevate. The prosternum, moreover, has a shallower transverse groove and is less deeply punctuated.

The size is very variable, as in other species, the largest specimen measuring (inclusive of head) 18 mm., and the smallest 9.5 mm.

21. *Xylinades japonicus* Sharp (1891).

♂ ♀. Capite inter oculos irregulariter rugato-striato, in medio carinato. Antennis in ♂ subtus non pilosis, clava compacta articulo 10<sup>o</sup> brevissimo. Prothorace subcordato mox pone apicem latiore, supra granulis et nonnullis plicis transversis instructo. Elytris leviter punctato-striatis atque granulosis, plaga magna basali circum scutellum sita et fascia lata postmediaua in stria suturali interrupta marginem lateralem attingente notatis.

1 ♂ and 1 ♀ from Kosempo and Chip Chip.

The irregularly striated frons of this species has in common with *X. armatus* Jord. (1895) and *X. striatifrons* Jord. (1895), both of which have a very coarsely and densely grooved pronotum. Moreover, the ♂-antennae bear in the species mentioned bristles on the underside, and the tenth segment is in ♂ as well as ♀ nearly as long as the eighth, being at any rate distinctly separate from segments 9 and 11, the club being much slenderer than in *japonicus*. The tomentum of the pronotum and elytra of *japonicus* is clayish ochraceous and rather dense. The black postmedian band of the elytra reaches from the first line of punctures to the lateral margin and is sinuate anteriorly and posteriorly, being produced anteriorly in the fifth interspace. The black basal patch common to the two elytra is not interrupted at the scutellum and suture or very slightly so.

The prothorax resembles in shape that of *X. marmoratus* Roel. (1880), but is devoid of the lateral longitudinal channel found in that species, and the apex is

more abruptly narrowed. The dorsal carina is deeply and evenly concave, entire, and distinctly flexed laterad before joining the lateral carina. The granules in the stripes of the elytra are small. The legs are nearly bare of pubescence, apart from an ochraceous spot on the widened part of the apex of the femora.

22. *Xylinades phycus* spec. nov.

♂ ♀. Capite inter oculos irregulariter rugato-striato, in medio carinato. Antennis in ♂ subtus pilosis, moniliformibus, clava ut in ♀ compacta. Pronoto ad latera modice rotundato, supra grosse denseque rugato-granuloso atque punctato. Elytris ochraceis leviter granulosis, macula basali communi et fascia postmediana ad suturam interruptis nigris. Prosterno profunde punctato. Pedibus sparsissime tomentosis.

Long. (cap. excl.). 7.5—8.5 mm.

1 ♂ and 1 ♀ from Hoozan.

The longitudinal wrinkles of the frons are numerous, and the rostrum is also more rugate than punctate. The segments 4 to 8 of the antenna are thicker and therefore in proportion shorter in the ♂ than in the ♀, segment 8 being distinctly broader than long; the club is compact, segments 9 and 10 being together somewhat shorter than 11. The eyes are higher than in most species.

The prothorax is longer than broad, slightly cordiform, being widest before the middle. The upperside bears some linear greyish ochraceous markings before the carina, the middle one being more or less indistinctly continued to the apex, and a larger patch of the same colour laterally at the apex; the punctures are large and deep and their interstices so raised as to form a network of confluent granules and folds, there being behind the carina numerous punctures at the sides and some granules in the centre. The dorsal carina is concave and in the centre minutely indented.

The elytra resemble those of the preceding species, being densely clayish ochraceous sparsely tessellated with black and bearing a large black basal patch, which, however, is interrupted at the suture, and a black postmedian band. The black spots are more or less confluent at the apex of the elytra, as is the case also in *X. japonicus*.

23. *Dendrotrogus angustipennis* Jord. (1895).

1 ♀ from Fuhosho.

24. *Asemorhinus nebulosus* Sharp (1891).

A long series from Fuhosho, Hoozan, and Kosempo.

25. *Caccorrhinus oculatus formosanus* subsp. nov.

♂ ♀. A *C. o. oculato* tarsorum articulo primo annulo lato griseo-luteo signato distinguendus.

Long. (cap. excl.). 3.8—8 mm.

A long series from Fuhosho.

In *C. o. oculatus* Sharp (1879), from Japan, the tarsi are entirely black.

26. *Basitropis nitidicutis* Jek. (1855).

2 ♀ ♀ from Hoozan.

27. *Paraphloeobius* (?) *brevis* spec. nov.

♂. Niger, griseo et ochraceo pubescens, oculis sinuatis, carina laterali prothoracis fere ad apicem continuata, tibiis mediis et posticis breviter mucronatis.

Long. (cap. excl.). 6.5 mm.

1 ♂ from Hoozan.

In the type of the genus, *P. tricolor* Jord. (1912), the eyes are not distinctly sinuate, and the lateral carina of the prothorax does not extend beyond the centre of the sides.

In *P. brevis* the rostrum is more than twice as broad as long, bearing a distinct round apical sinus. Antenna not reaching base of prothorax, segments 2—4 nearly equal in length, 5 a little shorter, 6 and 7 quite short, 8 triangular, club black, flat, broad, 10 twice as broad as long. Prothorax half as broad again as long, evenly and rather strongly convex; dorsal carina slightly and evenly concave, lateral angle a little over 90° with the tip rounded, at apical margin three white spots, and several others on the disc, all small and inconspicuous, in centre a blackish dot. Scutellum greyish white. Elytra cylindrical, basal callosity fairly distinct, with a black spot, interspaces 1, 3, 5, etc., very feebly raised, ochraceous, indistinctly variegated with white and black, suture slightly depressed from behind middle to apex, the latter as well as the pygidium white. Underside greyish white; legs short, tibiae with an indistinct subbasal spot and the apex blackish; inner surface of hindtibia convex before middle and then incurved; the mucro of mid- and hindtibiae short but quite distinct.

28. *Phloeobius gigas* F. (1775).

A small series from Hoozan.

29. *Apolecta paraplesia* spec. nov.

♂ ♀. Speciei *A. lewisi* Sharp (1891) dictae similis, elytris sine fascia transversa tota nigra, antennis segmento 1° multo minus abrupte incrassato, tibiis annulo lato mediano griseo distinguenda.

Long. (cap. excl.). 7—9.5 mm.

6 ♂♂ and 7 ♀♀, from Kosempo and Fuhosho.

The greyish clay pubescence has a greenish tint. The pronotum bears on each side three or four confluent spots; the spots of the elytra are also confluent for the greater part, but there is a broad transverse space in the middle which bears only a small number of spots.

While in *A. lewisi* the first segment of the antenna is quite abruptly dilated, it is much more gradually widened from near the base in the new species. The centre of the pronotum is elevate longitudinally, as usual; the carina is so strongly curved in the middle as to form nearly an angle; it does not reach the basal edge of the pronotum, which edge is elevate except towards the sides. The elytra are moderately depressed along the suture and posteriorly gradually rounded-declivous without indication of a tubercle. The claws are reddish brown, being much darker than in *lewisi*.

## SOME NEW ORIENTAL ZYGAENIDÆ.

BY DR. K. JORDAN.

1. *Callizygaena venusta* spec. nov.

♂. Corpore nigro-velutino, parum aenescente, antice maculis coeruleis metallicis ornato, abdomine subtus fascia latissima flava signato. Alis anticis linea subbasali alteraque antemediana coeruleis nitentibus, macula apicali marginali coeruleo-viridi; posticis macula discali atque squamis dispersis coeruleis ornatis.

♀ differt a ♂ abdomine absque fascia flava, alarum signaturis magis extensis, alis anticis fascia semicirculari pone cellulae apicem.

Long. al. ant. ♂ 15, ♀ 17 mm.

One pair from Matang, Saráwak, 3600 ft., June 1900, received from J. C. Moulton.

Nearest to *C. unipuncta* Swinh. (1904), which, however, has a large hyaline spot in the hindwing.

Antenna bipectinate, with the exception of the basal and apical segments, the branches gradually longer, being longest at the apical third, the last seven or eight segments short and almost moniliform, the preceding segments much smaller and bearing in the ♀ rough scaling, which together with the long pectination gives to the antenna the appearance of being strongly clavate. The scaling of the antennae, the frons, some spots on the thorax, and in ♀ a spot on each side at the base of the abdomen glossy blue, the abdominal spot in ♂ glossy golden; posterior segments of abdomen purple; underside of abdomen of ♂ yellow with the exception of the proximal segments.

Forewing with small transparent discocellular spot; the subbasal and ante-median transverse glossy blue lines straight; beyond apex of cell a few metallic scales in ♂ and a curved band in ♀; the glossy golden green apical band narrows posteriorly and reaches in ♀ the hind angle, before which this sex bears a large golden patch.—The metallic spot on the hindwing is small in the ♂ and large in the ♀, in the latter also the abdominal margin being broadly bordered with metallic blue.

On the *underside* the proximal bands of the forewing absent, but below cell some metallic scales; at upper as well as lower angle of cell a blue patch, the posterior patch in ♂ united with the marginal band, which extends from apex to hind angle in both sexes.—On hindwing a subbasal spot and a discocellular bar glossy blue, a marginal band (♂) or apical spot (♀) golden green.

The ground of both wings on both surfaces with a blue sheen in certain lights.

2. *Heteropan alienus* spec. nov.

♂. In hoc genere magnus; antennis, capite, thorace alisque anticis supra purpureis, corpore infra luteo-griseo, palpis pedibusque plus minus flavis. Alis elongatis, anticis apice haud truncatis, margine distali rotundato, macula magno subcentrali alba; posticis vitreo-albis, marginibus distali et costali violaceo-nigris. Alis infra ut supra, sed anticis magis violaceis atque macula alba multo majore.

Long. al. ant. 23 mm.

One ♂ from near the Oetakwa R., Snow Mts., Dutch New Guinea, up to 3500 ft., x.-xii. 1909 (A. S. Meek).

Differs rather remarkably from the other species of the genus in the elongate wings. Third subcostal of forewing present, thrown off from stalk of 4.5 near cell. Upperside of abdomen violaceous green. The white patch on the forewing above rounded, about as long as broad, expanding between subcostal and second submedian veins and placed proximally to apex of cell. The distal border of the hindwing very feebly narrowing behind, being 3 mm. broad in centre (inclusive of fringes), while the costal border only occupies the space between costal edge and cell.

On the forewing below the white patch extends a little beyond the apex of the cell and also reaches farther basad than on the upperside.

### 3. *Heteropan apicalis* spec. nov.

♀. Antennis, capite thoraceque supra purpureis, abdomine et sternis viridi-violaceis, palpis et rostro flavis, pedibus luteis plus minusve viridi-violaceo squamosis. Alis anticis supra purpureo-nigris, truncatis, macula apicali magna alba late aeneo-viridi marginata; posticis violaceis. Infra violaceis, anticis macula alba apicali.

Long. al. ant. 8.5—9 mm.

6 ♀♀ from near the Oetakwa R., Snow Mts., Dutch New Guinea, up to 3500 ft., x.-xii. 1909 (A. S. Meek).

This is the only known species in which the apex of the forewing is white. The glossy bluish green band which borders this patch on the proximal side is straight, running obliquely from the costal to the distal margin, which it reaches in front of the angle; in the centre of the wing there are traces of a bluish green transverse band. The upperside of the hindwing and the underside of both wings are blue and have a rather strong gloss.

Forewing with five subcostals; lower median far proximal, almost on a level with first subcostal.

### 4. *Heteropan truncata adamaris* subsp. nov.

♂. Abdomine supra et infra coeruleo, antennis purpureis; alis anticis supra sine macula distincta alba, posticis albis margine exteriori coeruleo nitente.

A series of ♂♂ from near the Oetakwa R., Snow Mts., Dutch New Guinea, up to 3500 ft., x.-xii. 1909 (A. S. Meek).

Forewing rounded-truncate, very slightly incurved below the apex, on disc a more or less slight indication of a white spot, no distinct metallic spot or band near outer margin, but with dull green and somewhat glossy scaling along costal edge and near outer margin; fringes only with a few metallic scales, much less glossy than in *H. t. chitonca* Jord. (1907). Hindwing as in *H. t. chitonca* ♀.

On *underside* the forewing with a large white patch extending from the base to near the apex of cell, sometimes occupying almost the whole proximal three-fifths of the wing: the white area of the hindwing reaches to costal margin, the latter not being blue in the centre.

Palpi, breast, and legs duller yellow than in *chitonca*. The underside of the abdomen very little paler than the upper.

Besides the type of *chitonca*, a ♀ from Milne Bay, we have a series of ♀♀ of

that form from the Kumusi R. in North-Eastern British New Guinea, collected by A. S. Meek in August 1907. Along with these ♀♀ Meek sent a single ♂, which presumably is the ♂ of *chitonea*. It differs from the ♀♀ in the forewing being rather narrower and bearing only a few metallic scales in place of the distinct submarginal band of the ♀♀; further, in the white area of the hindwing being reduced on the upperside to a central stripe which fills in the cell and extends beyond the apex of it, the stripe being bounded on the underside by the costal and lower submedian veins; the basal portion of the abdominal area whitish. The abdomen is yellowish white on the underside, with a bluish sheen.

### 5. *Heteropan iscatus* spec. nov.

A *H. aniso* Jord. (1907) differt alis anticis linea metallica admarginali ornatis, posticis subtus inter cellulam et marginem abdominalem coeruleo-nitentibus.

2 ♂♂ from near the Oetakwa R., Snow Mts., Dutch New Guinea, up to 3500 ft., x.-xii, 1909 (A. S. Meek).

In the ♂♂ of *lycaenoides* Walk. (1864) and *cyaneus* Jord. (1907) the hindwing beneath bears a purplish blue triangular spot posteriorly at the base. This spot is absent from the ♂♂ of *anisos* Jord. (1907) and the present species; but whereas the abdominal area of the underside of the hindwing (♂) is covered with clay-coloured scales as far as the upper submedian vein in *anisos*, this area is metallic blue and partly bluish white in the new species.

The forewing more rounded at the apex than in *anisos*; the distal margin purplish brown, within this brown border a blue metallic line nearly as in *scintillans*, but farther away from the margin, the fringes metallic.—Hindwing blue, with a white central smear occupying cell and extending beyond apex of same (type), or entirely blue.

On *underside*, a large white patch on forewing occupying the distal part of cell (or nearly the whole cell) and the parts of disc adjacent to the apex of cell; a similar white patch on hindwing. These white patches absent from ♂ of *anisos*, but present in ♀ of *anisos*, though somewhat smaller.

Coxae, sterna, and underside of abdomen paler than in ♂ of *anisos*, claspers and underside of preceding segment blue, rather paler than upperside of abdomen. Forewing with five subcostals.

### 6. *Eusphalera flavifrons* spec. nov.

♂. Nigra, parum violascens, fronte sulphurea, abdomine subtus pallide stramineo; alis anticis fascia aurantiaea mediana obliqua recta ornatis; posticis absque signaturis.

Long. al. ant. 16 mm.

1 ♂ from the Ninay valley, Arfak Mts., Dutch New Guinea, 3500 ft., February and March 1909 (Messrs. Pratt).

The pectinations of the antenna have a distinct ochraceous tone. Frons of head bright sulphur-yellow, occiput and scaling of antenna slightly metallic greenish blue. Upperside of forewing with a distinct purple sheen, which is less distinct on the upperside of the hindwing than on the underside. The orange band of the forewing 2 mm. broad, being very little widened costally. Breast and legs blue, as is also an ill-defined stripe which borders the pale creamy buff underside; apex of coxae, trochanters and base of femora creamy buff.



On *underside* the band of the forewing slightly broader as well as paler than above; hindwing with a small blue subapical spot, below which there is a vestigial second spot; forewing without blue spots above and beneath.

Fifth subcostal of forewing much more distal than third.

### 7. *Herpolasia albomedia callerema* subsp. nov.

♀. Differt ab *H. alb. albomedia* Roths. (1897) area alba alarum posticarum valde reducta.

1 ♀ from the Upper Setekwa R., Snow Mts., Dutch New Guinea, 2000—3000 ft., September 1910 (A. S. Meek).

The white area of the hindwing is reduced to an obliquely oblong patch 5 mm. broad and about 9 long, extending from the costal vein to the upper median on the *upperside*, being a little broader and longer on the *underside*; the patch bounded by metallic blue from before its outer angle around the posterior side to the centre of the cell, the blue border widening out in a basal and abdominal direction to near base and second submedian vein, there being also dispersed blue scales below this vein.

On *underside* the cell of forewing white, not crossed by a dark bar as in *H. a. albomedia*; the metallic scaling blue, occupying almost the whole of the hindwing with the exception of the white patch, and being also more extended on disc of forewing than in true *albomedia*, while the hind margin as far as the upper submedian has hardly any blue scales.

### 8. *Phlebohecta viduata* spec. nov.

♂. A *S. lypusa* Jord. (1907) thorace abdomineque flavo notatis distinguenda. Long. al. ant. 14 mm.

1 ♂ from Sintang, Dutch Borneo, February 1910 (Dr. Martin).

Bluish black like *lypusa*, described from a ♀ from the Batoe Islands. Antenna with rather long pectinations, as in *P. eupomia* Swinh. Frons whitish yellow, patagia with an orange yellow spot, metanotum with a narrow whitish edge; on the breast a white spot on each side; abdomen with four yellow bands, one or two complete dorsally, first and second white on *underside* and broadly interrupted above; apex of tarsi white.

On forewing, *upperside*, an elongate-ovate spot in apex of cell, and on hindwing a triangular spot in cell and below it proximally to lower median vein white, fringes white at apex of wings.

On *underside* the spots as above, rather larger; in addition on forewing a long white streak below cell and a short one in cell; on hindwing a diffuse discocellular spot and a patch before abdominal margin.

### 9. *Caprima mutilata henica* subsp. nov.

♀. A *C. m. mutilata* Walk. (1864) macula subbasali alarum anticarum multo minore et area flava alarum posticarum angustiore distinguenda.

1 ♀ from the Upper Setekwa R., Snow Mts., Dutch New Guinea, 2000—3000 ft., September 1910 (A. S. Meek).

10. *Caprima plagiata* spec. nov.

♂ ♀. Nigra, fronte, pronoto, macula subbasali in ala antica, altera obliqua multo majore in ala postica albis; alis anticis area rufa discali venis nigris secta ornatis.

Long. al. ant. 11.5—12.5 mm.

1 ♂ from near the Oetakwa R., Snow Mts., Dutch New Guinea, up to 5000 ft., x.-xii. 1910 (A. S. Meek) and 1 ♀ from the Upper Setekwa R. in the same district, 2000—3000 ft., September 1910 (A. S. Meek).

The underside of the thorax and the coxae grey with a blue gloss; the legs pale clay-colour; the extreme tip of the abdomen white. The subbasal patch of the forewing is 2 mm. broad and closely extends to the costal and hind margins; the rufous discal area is much brighter and also larger in ♀ than in ♂, occupying the apex of the cell and the greater part of the disc from the first subcostal to the second submedian in ♀, being much shaded with black in ♂. The white area of the hindwing reaches from the costal margin near base to near outer margin above anal angle, being longer in ♂ than in ♀; its hind edge is about parallel with the abdominal margin of wing, while the anterior edge is elbowed near apex of cell.

On the underside the rufous colouring on the forewing is reduced to a band which tapers behind and anteriorly widens in a basal direction, entering the cell, the band shorter in the ♂ than in the ♀ and traversed by black veins in both sexes. White area of hindwing larger than above, triangular, with the apex of the triangle rounded off.

---



Advertisements of Zoological Objects and Zoological Books only accepted.

Subscriptions for the present Volume are due NOW.

**Dr. STAUDINGER & BANG-HAAS,  
BLASEWITZ-DRESDEN,**

In their NEW PRICE LIST, No. LIII., offer more than 16,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition; 1,400 kinds of PREPARED LARVAE: numerous LIVING PUPAE, etc. SEPARATE PRICE LISTS, No. XXX., for COLEOPTERA (29,000 Species).

LISTS VII. and VIII. for HYMENOPTERA (3,200 Species), DIPTERA (2,400), HEMIPTERA (2,200), NEUROPTERA (600), ORTHOPTERA (1,100), BIOLOGICAL OBJECTS (265).

All Lists have a convenient index of genera.

*Liberal Discount for Cash Orders. Prices low.*

**WILHELM SCHLUETER,  
HALLE-a-S., GERMANY.**

ESTABLISHED 1853.

**LARGEST STOCK OF**  
European and Exotic BIRD SKINS.  
European and Exotic BIRDS' EGGS

**NATURAL HISTORY OBJECTS OF ALL KINDS  
FOR MUSEUMS AND COLLEGES.**

Outfit and Completion of Natural History Cabinets.  
**OWN PREPARATION WORKS.**

*Export to all parts of the World of many years' standing.*

CATALOGUES FREE OF CHARGE.

**W. F. H. ROSENBERG,  
Importer of EXOTIC ZOOLOGICAL COLLECTIONS,  
57, HAVERSTOCK HILL, LONDON, N.W.**

Fresh consignments are constantly arriving, including MAMMALS, BIRD SKINS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED  
SPECIMENS SENT ON APPROVAL.

Recently Received.—*Rhipidornis respublica*,  
*Astrapia splendidissima*, and other rare  
Paradise Birds.

**REPTILES, AMPHIBIANS, & FISHES.**

**W. F. H. ROSENBERG,  
57, Haverstock Hill, London, N.W., England,**

Begets to announce the publication of a new Price List (No. 16) of Reptiles, Batrachians, and Fishes, containing over 400 species from all parts of the world. This Catalogue is conveniently arranged for reference, with authors' names and indications of localities. It will be sent post free on application, as will the following lists:

No. 11: Birds' Skins (5,000 species). No. 12: Lepidoptera (5,000 species). No. 13: Coleoptera. No. 14: Mammals. No. 15: Birds' Eggs. Also list of Cabinets, Collecting Apparatus, etc.

Largest stock in the world of specimens in all branches of Zoology.  
Please state which lists are required.

**ROWLAND WARD, Ltd.,  
"The Jungle,"**

167, PICCADILLY, LONDON, W.

**MAMMALS, BIRDS,  
ETHNOGRAPHICAL SPECIMENS  
for Museums.**

**A REVISION OF THE LEPIDOPTEROUS FAMILY**

**SPHINGIDAE**

BY THE

**Hon. WALTER ROTHSCHILD, Ph.D.**

AND

**KARL JORDAN, M.A.L., Ph.D.**

PRICE: for Booksellers, £4; for the Public, £5.

CLXXXV and 322 pages, with 67 Plates.

*Annual Subscription to "Novitates Zoologicae," £1 1s.  
Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on  
completed volumes only.)*

Communications, etc., may be addressed to

**THE EDITORS OF "NOVITATES ZOOLOGICAE,"  
ZOOLOGICAL MUSEUM,  
TRING.**

23/xii/12.

# NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, F.R.S., PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XIX.

No. 2.

PAGES 151—377.

PLATES VI.—XII.

ISSUED DECEMBER 21ST, AT THE ZOOLOGICAL MUSEUM, TRING.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1912.

VOL. XIX.  
**NOVITATES ZOOLOGICAE.**

EDITED BY  
**WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN.**

*CONTENTS OF NO. II.*

	PAGES
1. NEW <i>SYNTOMIDAE</i> . . . . .	<i>Walter Rothschild</i> . 151—186
2. LIST OF A COLLECTION OF BIRDS MADE BY MR. ALBERT MEEK ON THE KUMUSI RIVER, NORTH-EASTERN BRITISH NEW GUINEA . . . . .	<i>Walter Rothschild and Ernst Hartert</i> . 187—206
3. LIST OF BIRDS COLLECTED BY MR. A. S. MEEK AT HAIDANA, COLLINGWOOD BAY, IN NORTH-EASTERN BRITISH NEW GUINEA . . . . .	<i>Walter Rothschild and Ernst Hartert</i> . 207—209
4. DESCRIPTION OF TWO NEW BIRDS FROM THE TIMOR GROUP OF ISLANDS . . . . .	<i>C. E. Hellmayr</i> . 210—211
5. NEW <i>LITHOSIARAE</i> . . . . .	<i>Walter Rothschild</i> . 212—246
6. DESCRIPTIONS D'ESPÈCES ET VARIÉTÉS NOUVELLES DE COCCINELLIDES DU BRITISH MUSEUM . . . . .	<i>Docteur Sicard</i> . 247—268
7. THE BIRDS OF YUNNAN . . . . .	<i>Collingwood Ingram</i> . 269—310
8. ORNITHOLOGISCHE MISZELLEN AUS DEM INDO-AUSTRALISCHEN GEBIET . . . . .	<i>Erwin Stresemann</i> . 311—351
9. NOTES ON <i>CLINOCORIDAE</i> , A FAMILY OF RHYNCHOTA, WITH THE DESCRIPTIONS OF A NEW GENUS AND SPECIES . . . . .	<i>Karl Jordan and N. Charles Rothschild</i> 352—356
10. ON SIPHONAPTERA COLLECTED IN ALGERIA. (PLATES VI.—XII.) . . . . .	<i>Karl Jordan and N. Charles Rothschild</i> 357—372
11. ON SOME UNFIGURED BIRDS. (PLATES I. AND II.) . . . . .	<i>Ernst Hartert</i> . 373—374
12. SOME UNFIGURED <i>SYNTOMIDAE</i> , <i>AEGERIADAE</i> AND <i>ARCTIARAE</i> . (PLATES III.—V.) . . . . .	<i>Walter Rothschild</i> . 375—377

PLATES I.—V. WILL APPEAR WITH THE INDEX NUMBER (No. 3).

# NOVITATES ZOOLOGICAE.

Vol. XIX.

DECEMBER, 1912.

No. 2.

## NEW SYNTOMIDAE.

By THE HON. W. ROTHSCILD, Ph.D., F.R.S.

### 1. *Androcharta klagesi* sp. nov.

♂. Nearest to *meones* Stoll. Differs from it by its smaller size, pale liver-brown forewings, and the strongly reduced hyaline markings; hindwings creamy instead of whitish grey.

♀ shows similar differences.

Length of forewing: *meones*, ♂ 22 mm.; ♀ 25 mm.

" " " : *klagesi*, ♂ 18 " ; ♀ 19 "

*Hab.* Ciudad Bolívar, Venezuela, December 1898 and January 1899 (S. M. Klages coll.). 4 ♂♂, 6 ♀♀.

I should have treated this as a subspecies of *meones*, but the latter occurs together with it.

### 2. *Androcharta hoffmannsi* sp. nov.

♂. Legs deep brown; head black with glittering blue spots; thorax black, metallic spots and bands on tegulae and patagia; abdomen black, a central crimson patch on first two segments, and metallic blue lateral patches on each segment.—Forewing black, two metallic blue patches at base of wing and a similar one near base of cell; a large discocellular blue patch, a semivitreous white spot above vein 1 and similar ones above veins 3, 4, 5, the latter small.—Hindwing: base and lappet grey-brown, disc white, a broad marginal band, greyish above, brown below.

♀ similar, but border of hindwing above black.

Length of forewing: ♂ 22 mm.; ♀ 24 mm.

*Hab.* Humayta, Rio Madeira, July—September 1906 (W. Hoffmanns coll.). 1 ♂, 4 ♀♀.

### 3. *Eriphioides rosenbergi* sp. nov.

♂♀. Similar to *surinamensis* Moeschl. but much brighter; chestnut-brown, **not** deep umber-brown, and the cupreous spots shining coppery green, **not** blue-green. Intermediate in appearance between *surinamensis* and *ustulata*.

*Hab.* Rio Dagua, Colombia (W. Rosenberg) (type), 2 ♂♂, 4 ♀♀; 1 ♂ Colombia; 1 ♂ Santa Fé de Bogotá; 1 ♂?

### 4. *Ceramidia klagesi* sp. nov.

♂. Pectus white; head deep olivaceous green; antennae blackish steel-blue; collar dark crimson; thorax and abdomen olivaceous green.—Forewing bright oily green.—Hindwing: costal half silvery grey, tornal half oil-green.

Length of forewing : 18 mm.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, February 1905 (S. M. Klages). 4 ♂♂.

5. *Ceramidia scintillocollaris* sp. nov.

♂. Frons white, vertex of head glittering steel-green; antennae steel-blue; tegulae glittering steel-green; shoulder-spots white; thorax cupreous, patagia with black borders; first segment of abdomen cupreous, sides white; rest of abdomen brown with cupreous gloss.—Forewing dark oil-green.—Hindwing: costal half grey, rest of wing black.

Length of forewing : 21 mm.

*Hab.* San Ramon, Rio Wanks, Nicaragua, 375 ft., July 1905 (M. G. Palmer). 1 ♂.

6. *Ceramidia underwoodi* sp. nov.

♂. Head black; antennae steel-blue; collar crimson; thorax and abdomen olive cupreous, first segment of abdomen metallic green.—Forewing deep oil-green, discal third metallic green, forming an indistinct band.—Hindwing greenish black, costal area dark chestnut.

Length of forewing : 20 mm.

*Hab.* Costa Rica (Underwood). 1 ♂.

7. *Ceramidia simplex* sp. nov.

♂. Pectus white; head and thorax brown with cupreous patches, collar crimson; abdomen black with cupreous dorsal and lateral bands.—Forewing purplish brown.—Hindwing: costal half dark brownish grey, rest of wing deep brown.

♀. Similar, but paler and more uniformly brown.

Length of forewing : ♂ 18 mm.; ♀ 18 mm.

*Hab.* Cachabé, Western Ecuador (low country), January 1897 (type); Rio Dagna, Colombia (W. Rosenberg). 1 ♂, 1 ♀.

8. *Ceramidia bricenoi* sp. nov.

♂. Legs and antennae steel-blue; head black with steel-blue spots; thorax black with slight cupreous markings; abdomen bright cupreous with subdorsal black bands, a green dorsal and white lateral spots on basal segment.—Forewing: basal half golden green, outer half deep oil-green.—Hindwing: costal half deep grey, rest of wing brown-black.

Length of forewing : 25 mm.

*Hab.* Montau, Sierra de Merida, Venezuela, 3000 metres, July 20, 1898 (Briceño coll.). 1 ♂.

9. *Ceramidia painei* sp. nov.

♂. Legs and antennae brown; head black; tegulae snow-white; thorax and abdomen cupreous green; patagia black, lateral white patches on second and third abdominal segments.—Forewing: basal three-fifths golden green, outer two-fifths dark blackish green.—Hindwing: costal area dark grey, rest of wing black.

Length of forewing : 24 mm.

*Hab.* Corinto, Cauca, May—July 1906 (Paine and Brinkley).



10. *Ceramidia mathani* sp. nov.

♂. Allied to *phemonides*. Legs cupreous green; pectus and frons cream-white; antennae black-blue; vertex of head and thorax bright cupreous green, sides of collar crimson, patagia widely bordered with black; abdomen above brilliant cupreous green, below white.—Forewing oily blackish olive-brown, base and basal third of costa glittering green.—Hindwing: costal half pale grey, rest brown-black.

Length of forewing: 20 mm.

*Hab.* Tefé, Amazons, November 1907 (M. de Mathan) (type), 2 ♂♂; 1 ♂, without locality (Felder coll.).

11. *Ceramidia affinis* sp. nov.

♂. Head and thorax black with glittering blue-green spots, collar red, tegulae metallic blue-green; abdomen cupreous green with black subdorsal and cream-white lateral stripes.—Forewing dark oily steel-blue, somewhat greenish on basal third.—Hindwing: costal half grey, rest deep brown.

Length of forewing: 17 mm.

*Hab.* Tefé, Amazons, September 1907 (M. de Mathan). 1 ♂.

12. *Ceramidia viridisaturata* sp. nov.

♂. Head and antennae black with green-blue spots; thorax and abdomen bright cupreous, tegulae green-blue.—Forewing: basal fifth black, discal two-fifths golden green, outer two-fifths oil-green.—Hindwing: costal three-fifths pale yellowish grey, rest of wing black.

Length of forewing: 23 mm.

*Hab.* ? probably Province of Rio. 1 ♂.

13. *Amycles affinis* sp. nov.

♂. Allied to *anthracina* Walk. and *adusta* Feld., but much smaller. Pectus creamy white; antennae, the basal three-fifths steel-blue, rest whitish; head, thorax, and abdomen dark chocolate brown.—Forewing bright brown on basal two-thirds, apical third between costa and vein 2 semivitreous grey, an irregular broad concave band separating this semivitreous outer area from the rest; this band on the inner side is buffy chestnut, on the outer yellowish cream.—Hindwing: costal area pale grey, most of abdominal area vitreous, rest of wing dark chocolate brown.

♀ differs by the postmedian band being much broader.

Length of forewing: *anthracina*, ♂ 20 mm.; ♀ 19 mm.

“ “ “ : *adusta*, ♂ 22 mm.; ♀ 21 mm.

“ “ “ : *affinis*, ♂ 14 mm.; ♀ 15 mm.

*Hab.* La Union, Caura River, June 1902 (type), 24 ♂♂; Maripa, Caura River, 1 ♂; La Vuelta, Caura River, 1 ♂ (S. M. Klages); Suapure, Venezuela, February 2, 1899 (S. M. Klages), 1 ♂; Merida, Mechisera, 3000 metres (Briceño), 1 ♀; Montan, Sierra de Merida, 3000 metres, 1 ♂, Merida, Venezuela, 1 ♂ (Briceño); San Ramon, Río Wanks, Nicaragua, 375 ft., May 1905 (M. G. Palmer), 5 ♂♂, 1 ♀; 2 ♂♂?

14. *Amycles tenebrosa* sp. nov.

♂. Head, antennae, thorax, and abdomen deep black.—Forewing: basal two-thirds deep black-brown, apical third pale brown, scarcely thinner scaled.—Hindwing has dark parts black-brown.

Length of forewing: 17 mm.

*Hab.* Caracas, Venezuela. 2 ♂♂.

15. *Amycles brinkleyi* sp. nov.

♂. Deep brown-black; apical third of forewing paler.

Length of forewing: 17 mm.

*Hab.* Coreata, Canca Valley (Paine and Brinkley). 1 ♂.

I should have made all these three forms subspecies, but they occur together with *anthracina* and *adusta*.

16. *Amycles klagesi* sp. nov.

♂. Pectus white; antennae bright blue; head and tegulae green-blue; thorax and abdomen brown-black, with central and lateral bands of cupreous green spots.—Fore- and hindwings deep brown with cupreous green dots at base.

♀ sooty black with hardly any cupreous green markings.

Length of forewing: ♂ 17 mm.; ♀ 15 mm.

*Hab.* San Esteban, Venezuela, June and July 1909 (type), 2 ♂♂, 1 ♀, La Vuelta, Canra River, June 1903, 1 ♂ (S. M. Klages).

17. *Antichloris nigrolineata* sp. nov.

♂. At once distinguishable from *criphia* Fab. by the two subdorsal black abdominal bands. Legs brown; head and spots on thorax metallic green; thorax black; abdomen bright cupreous with broad black subdorsal bands.—Forewing bright oil-green.—Hindwing: costal half brownish grey, rest black-brown.

Length of forewing: 20 mm.

*Hab.* La Union, Canra River, March 1902 (type), 30 ♂♂; Guyapa, Canra River, November 24—December 10, 1902, 3 ♂♂; Snapure, Venezuela, March 1899, 2 ♂♂ (S. M. Klages).

18. *Antichloris intensa* sp. nov.

♂. Legs deep brown; pectus with two white spots; head and tegulae black with glittering blue-green spots; thorax deep black-brown; abdomen bright cupreous golden with subdorsal black bands.—Forewing deep blackish chocolate with a somewhat oily gloss.—Hindwing: costal two-thirds grey, rest blackish chocolate.

Length of forewing: 22 mm.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, February 1905 (S. M. Klages). 4 ♂♂.

19. *Antichloris trinitatis* sp. nov.

♀. Pectus metallic green-blue; head and tegulae metallic blue; antennae dark brown, tips white; thorax black-brown with blue-green patches; abdomen cupreous green with subdorsal black-brown bands.—Wings sooty black-brown.

Length of forewing: 18 mm.

*Hab.* Caparo, Trinidad, January 1906 (S. M. Klages). 1 ♀.

20. *Antichloris atrinervis* sp. nov.

♂. Very near *scudderi* Butl. Head, antennae, and thorax velvety blue-black with scintillating green-blue spots, collar crimson; abdomen black with dorsal and lateral cupreous green bands and sublateral broad white bands, lateral white spots on segment 3.—Forewing: basal two-thirds bronze green, outer third dark oily green-blue, nervures black.—Hindwing: costal three-fifths grey, rest black-brown. Length of forewing: 20 mm.

*Hab.* Teffé, Amazons, October 1907 (M. de Mathan). 4 ♂♂.

21. *Antichloris atrinervis steinbachi* subsp. nov.

♂. Similar to *atrinervis*, but differs in having the basal two-thirds of forewing much brighter and more glittering green, and the hindwing much darker, the grey area in the latter smaller and darker grey, the rest intense black.

*Hab.* Buenavista, East Bolivia, 750 metres, August 1906—April 1907 (type) (1 ♂), Province Sara, Department Santa Cruz de la Sierra, April—May 1904, 1 ♂ (J. Steinbach).

22. *Antichloris metallica* sp. nov.

♂. Head and antennae black; thorax black with cupreous spots; abdomen golden cupreous with white sublateral bands, first segment green.—Forewing: basal half bright metallic golden green, apical half black.—Hindwing: costal half grey, rest black-brown.

♀ similar, but metallic colour on forewings more bluish.

Length of forewing: ♂ 19 mm.; ♀ 18 mm.

*Hab.* Paramba, Ecuador, April 1897, and November—December 1898, dry season (W. Rosenburg). 2 ♂♂, 2 ♀♀.

23. *Napata pseudolelex* sp. nov.

♂♀. Differs from *lelex* Druce in the absence of the white fringe on the hindwings.

*Hab.* Zamora, Ecuador, 3000—4000 ft. (O. T. Baron) (type), 3 ♂♂; Cauca Valley, 2 ♂♂, 1 ♀; Bogotá, Colombia, 1 ♂; Venezuela, 1 ♀.

24. *Empyreuma sanguinea* nom. nov.

I have renamed this insect, as the name of *lichas* Fab. is doubtful, and *sanguinea* Martyn cannot be used, as "Psyche" of Martyn was never published.

25. *Empyreuma sanguinea portoricensis* subsp. nov.

Differs from *s. sanguinea* by the duller red and wider terminal margins of the forewings.

*Hab.* Porto Rico, West Indies. 1 ♂, 1 ♀ (Felder coll.).

26. *Empyreuma affinis* sp. nov.

♂♀. Differs from *sanguinea* in the forewings being chocolate, not scarlet, the terminal margin very much wider and black-brown, four-fifths of the costa and basal sixth of inner margin being crimson and the margin of hindwings being much broader and black, while the hindwing itself is crimson.

*Hab.* Holguin, Cuba (H. S. Parish). 3 ♂♂, 2 ♀♀; type, ♀.

27. *Empyreuma affinis haitensis* subsp. nov.

♂ ♀. Differs from *a. affinis* in having forewings rufous chestnut and hindwings scarlet.

*Hab.* Haiti, 1898 (type), 2 ♂♂; St. Domingo (Felder coll.), 2 ♀♀.

28. *Autochloris affinis* sp. nov.

♂. Allied to *imperialis* H. S. Differs in its much broader wings, its coppery green, **not** coppery purple, forewings, which have the costal area green, **not** black, and area below vein 1 green with black central dot, **not** black; disc of hindwing most frequently green, **not** black.

♀. Similar, but with black hindwing.

Length of forewing: *imperialis*, ♂ 23 mm.; *affinis*, ♂ 21 mm.

Breadth „ „ : „ „ 11 „ ; „ „ 8 „

*Hab.* Agualani, S.E. Peru, 9000—10,000 ft., March 1904 (G. Ockenden) (type), 3 ♂♂, 1 ♀; Limbani, Carabaya, 2500 ft., April 1904, dry season (G. Ockenden), 4 ♂♂; Huacabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger), 8 ♂♂; Río Inambari to Limbani, S.E. Peru, March 1904 (G. Ockenden), 1 ♂; Oconeque, and Oconeque to Agualani, Carabaya, 6000—9000 ft., March 1904 and 1905 (G. Ockenden), 2 ♂♂; Zamora, Ecuador, 3000—4000 ft. (O. T. Baron), 1 ♂.

29. *Eupyra distincta* sp. nov.

♂. Pectus white; head and antennae black, a white spot behind eye; thorax black, basal half of patagia and minute dot near apex white; abdomen black, a creamy yellow transverse band on three penultimate segments.—Forewing black, powdered with metallic green scales near base and between veins 2 and 5 or 6, two vitreous spots in cell, one beyond it, one below median nervure, and one on each side of vein 4.—Hindwing black shot with purple, a vitreous spot in cell and one below median; tornus, median vein, and costal area more or less metallic azure blue.

Length of forewing: 21 mm.

*Hab.* Venezuela. 1 ♂.

30. *Callopepla grandis* sp. nov.

♀. Head, antennae, and thorax greyish black; abdomen pale metallic blue above, darker on basal half, brown-black below.—Forewing black, cell powdered in patches with orange scales, a hair-line on inner margin, a line on vein 1 and a band above vein 1 orange, from subcostal nervure beyond cell nearly to termen above vein 2 a broad oblique orange band.—Hindwing black, strongly glossed with metallic blue on basal and abdominal areas.

Length of forewing: 22 mm.

*Hab.* Rio Grande do Sul. 1 ♀.

31. *Cyanopepla baroni* sp. nov.

♂. Pectus pale yellow; antennae black; head and tegulae metallic green; abdomen above metallic aquamarine blue, below yellow.—Forewing chocolate brown, costa and basal half of inner margin orange, a scarlet subbasal streak.—

Hindwing dark brown, fringe orange and yellow; a large discal wedge-shaped patch runs from base to termen; basal half intense metallic blue, outer half crimson scarlet.  
♀. Similar.

*Hab.* Zamora, Ecuador, 3000—4000 ft. (O. T. Baron). 1 ♂, 1 ♀.

### 32. *Cyanopepla submacula borealis* subsp. nov.

♂ ♀. Differs from *s. submacula* in the much greater extent of the silvery blue scaling on body and forewings, in the much broader reddish orange or crimson band above vein 1 of forewings, and in having no red markings on hindwings above.

*Hab.* San Pedro Sula, Honduras. 4 ♂♂, 1 ♀.

### 33. *Cyanopepla beata* sp. nov.

♂ ♀. All wings very narrow. Antennae black; head, thorax, and abdomen glittering blue.—Forewing black with subbasal blue streak; a large crimson wedge-shaped band reaches from base to termen above vein 1 and between it and cell.—Hindwing black, a crimson patch at apex.

Length of forewing: ♂ 17 mm.; ♀ 15 mm.

*Hab.* Chiriqui, Panama; type, ♀.

### 34. *Cyanopepla dognini* sp. nov.

♂ ♀. Allied to *girardi* Dogn. Pectus and palpi orange, last palpal joint, head, and antennae black; thorax sooty black-brown; abdomen black glossed with deep purple blue, anal tuft orange.—Forewing dirty black-brown, veins grey, a large creamy patch beyond cell and a small indistinct one between veins 2 and 3, fringe at apex white, rest grey.—Hindwing black glossed with dark purple blue, fringe white.

Length of forewing: 18 mm.

*Hab.* Sapucay, Paraguay, November 26, 1904 (W. Foster), 1 ♂ (type); Rio Burmejo to Rio Pilcomayo, December 1903 (J. Steinbach), 1 ♀; Paragnay, 1 ♀; Parana, Entre Rios, 2 ♂♂.

The Rio Burmejo ♀ has not got the second creamy spot on forewings.

### 35. *Trichodesma klagesi* sp. nov.

♂. Head orange buff; antennae brown; tegulae olive; thorax brown, patagia with central olive streak and edges; abdomen black-brown above, white below.—Forewing dark umber-brown; vein 1, fold above vein 1, median and subcostal veins, greyish yellow; a broad orange-buff oblique band from costa beyond cell to tornus.—Hindwing: basal two-thirds obliquely semivitreous sooty grey above, white below, outer third sooty brown-black.

♀ has hindwing less transparent, almost uniform sooty brown-black.

Length of forewing: 18 mm.

*Hab.* Fonte Boa, Amazons, July 1906, 2 ♂♂ (type); La Union, Caura River, July, August 1901, 19 ♂♂; Guyapa, Caura River, November 24—December 10, 1902, 7 ♂♂, 1 ♀ (S. M. Klages); Culama, Rio Madeira, August—October 1907 (W. Hoffmanns), 1 ♂.

36. *Trichodesma perplexa* sp. nov.

♂. Differs from *klagesi* by its much broader wings, narrower oblique band on forewing, uniform black-brown hindwings, and brown, **not** white, underside of abdomen.

*Hab.* Fonte Boa, Amazons, June 1906 and May 1907 (S. M. Klages), 7 ♂♂ (type): Santo Antonio do Javary, Upper Amazons, May 1907 (S. M. Klages), 1 ♂; Tefé, Amazons, September 1907 (M. de Mathan), 1 ♀.

37. *Trichodesma hoffmannsi* sp. nov.

♂♀. Differs from *perplexa* in having narrower wings.—Hindwing above with wide central longitudinal orange-buff band from base to termen; below the hindwings are similar, but abdominal area is greyish white.

*Hab.* Poznzu, Huanco, 800—1000 metres (W. Hoffmanns), 1 ♂ (type); Buena-vista, East Bolivia, 750 metres, August 1906 to April 1907 (J. Steinbach).

38. *Trichodesma nitens* sp. nov.

♂. Legs brown, inner side white; pectus white; palpi brown on sides, white in front; head black with two white spots; antennae black; thorax and abdomen black-brown strongly glossed with purple; underside of abdomen black-brown with two longitudinal white bands.—Forewing black-brown, a broad cinnamon-buff oblique band beyond cell reaching from costa almost to tornus.—Hindwing black very strongly glossed with purple.

Length of forewing: 20 mm.

*Hab.* La Union, Caura River, June 1902 (type); Maripa, Caura River (S. M. Klages).

39. *Trichodesma similis* sp. nov.

♂. Allied to *nitens*, but larger and wings much broader. Head, antennae, thorax, and abdomen black.—Forewing black, veins paler, a broad orange-buff oblique band across end of cell from costa almost to tornus.—Hindwing, costal half black, abdominal half dark sooty grey.

Length of forewing: 22 mm.

*Hab.* Fonte Boa, Upper Amazons, May 1906 (S. M. Klages).

40. *Trichodesma parva* sp. nov.

♂. A small species with very narrow wings. Above black-brown; nervures of forewings paler orange-buff, oblique band rounded. Underside of body white. Length of forewing: 14 mm.

*Hab.* Maripa, Caura River (S. M. Klages).

41. *Coreura engelkei* sp. nov.

♂. Pectus white; palpi and sides of neck and head scarlet; head and antennae black; tegulae black with narrow scarlet edges, rest of thorax and abdomen black glossed with blue.—Forewing black, a transverse oblique scarlet band beyond cell from costa almost to tornus, fringe at apex white.—Hindwing brilliant blue, fringe scarlet.

Length of forewing: 21 mm.

*Hab.* Onaca, Sta. Marta 2000 ft. (Engelke).

42. *Aclytia jonesi* sp. nov.

♂ ♀. Pectus and underside of abdomen white; head and antennae black-brown; thorax dark greyish brown; collar, outer half of tegulae and spot at base of forewing bright orange, central line of patagia greyish yellow; abdomen sooty black with glittering green-blue lateral patches.—Forewing velvety brown, veins greyish yellow, a brilliant orange spot at end of cell.—Hindwing sooty black washed with dark purplish blue, costal area testaceous grey, centre of wing hyaline white.

Length of forewing: 16 mm.

*Hab.* São Paulo, 2 ♂♂; Castro Parana (E. D. Jones), 1 ♂.

43. *Aclytia klagesi* sp. nov.

♂ ♀. Pectus and underside of abdomen buffy cream; head and antennae sooty black, vertex with metallic blue-green spot; thorax sooty black; abdomen glittering coppery blue-green, subdorsal sooty black bands on first four segments uniting on remaining segments into a dorsal median band.—Forewing sooty black.—Hindwing sooty black with deep blue gloss, median area hyaline white.

Length of forewing: 18 mm.

*Hab.* Maripa, Caura River (type); La Union, Caura River, March—June 1902; Guyapa, Caura River, 24. xi.—10. xii. 1902 (S. M. Klages); Yungas de Coroico, Bolivia, 1800 metres, October 1906—March 1907 (Otto Garlepp).

44. *Aclytia affinis* sp. nov.

♂ ♀. Differs from the preceding in its pure white pectus, and underside of abdomen, smaller size, single dorsal black band on abdomen, and in the reduced white area of hindwing, which is semi-hyaline, **not** hyaline.

Length of forewing: 15 mm.

*Hab.* La Union, Caura River, March—June 1902 (S. M. Klages).

45. *Aclytia flavicaput* sp. nov.

♂ ♀. Pectus and underside of abdomen orange; head and collar orange, vertex black; antennae sooty black; thorax sooty black, central line of patagia dull greyish yellow; abdomen glittering green-blue with broad dorsal central sooty-black band on first four segments.—Forewing sooty brown-black, nervures paler.—Hindwing black with blue gloss, central area hyaline white.

Length of forewing: 16 mm.

*Hab.* La Vuelta, Caura River, April 1903 (type); Maripa, Caura River, La Union, Caura River, May 1902 (S. M. Klages); Ouaca, Sta Marta, 2200 ft., wet season, November 1901 (Engelke); Paramaribo, December 1892 (C. W. Ellacombe).

46. *Aclytia coeruleonitens* sp. nov.

♀. Pectus and underside of abdomen white; basal joint of palpi orange; head sooty black with two narrow whitish streaks; antennae black; thorax sooty brown, orange dots on tegulae; abdomen uniform glittering green-blue, a patch of

sooty black hair on first segment.—Forewing sooty brown.—Hindwing black with blue gloss, central area hyaline white.

Length of forewing : 16 mm.

*Hab.* Buenavista, East Bolivia, 750 metres, August 1906—April 1907 (J. Steinbach).

47. *Aclytia hoffmannsi* sp. nov.

♂ ♀. Pectus and underside of abdomen white ; basal joint of palpi orange ; head and antennae black-brown ; thorax black-brown, orange spot on tegulae, central line of patagia paler ; abdomen glittering blue.—Forewing dark chocolate brown, veins paler, a large orange spot at end of cell.—Hindwing black slightly glossed with blue, central area hyaline white.

Length of forewing : 18 mm.

*Hab.* Pozuzu, Huanuco, Peru, 800—1000 metres (W. Hoffmanns) (type) ; Chanchamayo, Peru, 2100—7500 ft.

48. *Aclytia reducta* sp. nov.

♂ ♀. Pectus and underside of abdomen white ; head and antennae black ; thorax brown-black with two central white dots ; abdomen glittering blue-green, with central dorsal black band broadest near base.—Forewing brown-black with orange spot at end of cell.—Hindwing black, central hyaline white area much reduced.

Length of forewing : 16.5 mm.

*Hab.* Maripa, Canra River (S. M. Klages).

49. *Euagra klagesi* sp. nov.

♂. Nearest allied to *azurea* Walk. Pectus and underside of body white ; basal and middle joint of palpi crimson, apical joint black ; head white, vertex and antennae black ; collar crimson ; thorax black strongly glossed with blue ; abdomen deep bright blue, sides of first segment and median dorsal line lavender.—Forewing black glossed with deep blue, a line from base between costa and subcostal vein one-fifth the length of wing pale lavender, a hyaline bluish white patch in cell, a similar larger one between veins 2 and 3, and a smaller one above vein 3, fringe at apex white.—Hindwing brilliant blue, a median hyaline band from base almost reaching to termen between veins 2 and 3. ♀ similar, but with blunter apex to forewings.

Length of forewing : ♂ 21 mm., ♀ 17 mm.

*Hab.* Albina, Surinam, January 1905 (S. M. Klages).

50. *Micragra borealis* sp. nov.

♂ ♀. Nearest allied to *sanguiceps* Hamps. Pectus and underside of body white ; head white, vertex and collar crimson ; thorax glittering green, apical two-thirds of patagia sooty black-brown ; antennae sooty black-brown ; abdomen glittering green, a median sooty black-brown band on all but basal segment.—Forewing sooty black-brown, base glittering green ; an oval oblique creamy white patch reaches from median vein almost to torus, apex white.—Hindwing sooty black-brown, an oval white patch in lower half of wing, a glittering green line runs along vein 1 from the base for two-thirds its length.



Length of forewing : 14 mm.

*Hab.* Mariipa, Cauca River (type) ; La Vuelta, Cauca River, June 1903 (S. M. Klages).

51. *Agyrta lacticolor* sp. nov.

♂. Pectus and underside of body white ; basal joint of palpi and collar crimson ; head black with two lateral white bands ; antennae heavily pectinated white, pectinations black ; thorax sooty brown with central whitish band ; abdomen blue with median white band.—Forewing black, a small semihyaline longitudinal patch in cell and a larger similar one on basal half of vein 2, a broad median semi-hyaline band reaching from base to half-way along vein 2 cream-colour, a semi-hyaline white patch on each side of vein 5.—Hindwing : basal half buffy cream-colour, outer half black glossed with blue.

Length of forewing : 23 mm.

*Hab.* Pozuzu, Huanuco, Peru, 800—1000 metres (W. Hoffmanns).

52. *Agyrta mathani* sp. nov.

♀. Pectus grey ; antennae black, head and tegulae glittering blue edged with black ; thorax and abdomen sooty brown-black with subdorsal blue bands.—Forewing black with white apical fringe ; costal area for two-thirds its length from base and a band along basal two-thirds of vein 1 metallic peacock blue ; an oblique hyaline patch surrounded with bright blue extends from subcostal nervure almost to tornus above vein 1.—Hindwing brilliant blue, somewhat blackish towards apex, costa grey, a median hyaline band from base almost to termen at vein 3, all nervures in band blue.

Length of forewing : 21 mm.

*Hab.* Muzo, Colombia, July 1903 (M. de Mathan) (type) ; Paramba, Ecuador, 3500 ft., June 1897 (dry season) (W. H. Rosenberg) ; Bogotá ; Cananche, Cundinamarca, July 1903 (M. de Mathan).

53. *Agyrta chena garleppi* subsp. nov.

♂♀. Differs from *chena chena* Druce on forewing in the much larger semi-hyaline patches on each side of vein 4, in the semihyaline streak below vein 2 reaching to base of wing, and in the much wider and longer lavender-blue band along vein 1 ; on the hindwing the median semihyaline band is also much wider and longer.

*Hab.* Yungas de Coroica, Bolivia, 1800 metres (type) ; Yungas de la Paz, Bolivia, November 1899, 1000 metres, Rio Tanampaya, Bolivia, 1894 (Garlepp) ; Rio Cachiaco (Maxwell Stuart).

54. *Agyrta bifasciata* sp. nov.

♀. Pectus whitish ; head black-brown with lateral white bands, vertex and collar scarlet ; thorax blackish brown with a lilac-blue wash and median and lateral white lines ; abdomen sooty black-brown washed with lilac blue and with median white line.—Forewing sooty brown-black with lavender band along basal half of vein 1, an oblique vitreous band across centre of cell from subcostal nervure towards termen reaching two-thirds the length of vein 2, a similar postmedian band between

veins 4 and 6.—Hindwing sooty brown-black slightly glossed with blue, with median vitreous band.

Length of forewing : 19 mm.

*Hab.* Rio Demerara, British Guiana.

55. *Agyrta klagesi* sp. nov.

♂. Pectus snow-white; head blue, vertex and antennae black; thorax velvety black with glittering blue-green spots on tegulae and patagia; abdomen black, median line blue-grey, lateral rows of metallic green-blue spots.—Forewing velvety black, a white spot at apex, a semihyaline white oblique patch reaching from subcostal at apex of cell almost to three-quarters the length of vein 2 towards tornus, a brilliant blue-green streak from base one-third the length of wing on subcosta and a similar one on vein 1 for the basal half of its length.—Hindwing black, central area from base almost to tornus hyaline, a black hook on discocellulars.

♀ similar, but with shorter, blunter forewings.

Length of forewing : ♂ 19 mm., ♀ 17.5 mm.

*Hab.* La Vuelta, Caura River, May 1903 (type); Guyapa, Caura River, November 24—December 10, 1902; Maripa, Caura River (S.M. Klages).

56. *Agyrta abdominalis* sp. nov.

♂. Pectus, outside of palpi, and underside of abdomen white; head and thorax black with white dots; antennae black; abdomen sooty black slightly glossed with blue, two subdorsal greyish white lines.—Forewing black, a broad glittering blue band two-fifths along wing above vein 1, a hyaline patch in cell, and a larger one below median vein, a hyaline oblique postdiscal band reaching from subcosta almost to termen at vein 3.—Hindwing black with central hyaline band, abdominal area glittering blue.

♀ similar.

Length of forewing : ♂ 15 mm., ♀ 17 mm.

*Hab.* Humayta, Rio Madeira, July—September 1906 (W. Hoffmanns) (type); Gourdonville, Kourou River, Cayenne, September 1905 (E. Le Mout); Berg-eu-Daal, Surinam, April 1892 (C. W. Ellacombe); Suapure, Venezuela, February 22, 1899.

57. *Agyrta buchwaldi* sp. nov.

♂ ♀. Pectus white, underside of abdomen orange; antennae black; head, thorax, and abdomen deep blue.—Forewing deep blue-purple, a hyaline patch in cell, a large similar one from base above vein 1 to beyond middle of vein 2, a similar hyaline spot above basal half of vein 2; an oblique hyaline patch at end of cell reaches from subcosta almost to termen at vein 3.—Hindwing hyaline with wide deep blue-purple border.

Length of forewing : ♂ 18 mm., ♀ 17 mm.

*Hab.* Quevedo, W. Ecuador (W. Buchwald) (type); Cananche, Cundinamarca, Colombia, August 1903 (M. de Mathan); Yungas de Coroica, Bolivia, 1800 metres (Garlepp); Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns).

58. *Agyrta nitens* sp. nov.

♂. Pectus and underside of abdomen white; antennae black; head blue with white spot on frons; thorax and abdomen brilliant deep blue.—Forewing brilliant deep blue, basal above vein 1 and below subcostal hyaline; a hyaline oblique patch reaching from subcosta at apex of cell almost to termen at vein 3.—Hindwing hyaline, with veins and wide border brilliant deep blue.

♀ has dark portions black glossed with deep blue.

Length of forewing: ♂ 20 mm., ♀ 19 mm.

*Hab.* Cauanche, Cundinamarca, Colombia, July 1903 (M. de Mathan) (type); Bogotá; Paramba, Ecuador, 3500 ft., April 1897, dry season (W. H. Rosenberg); Pozuzu, Department Huancayo, Peru (Hoffmanns).

59. *Agyrta acutipennis* sp. nov.

♀. Similar to above, but apex of forewing drawn out to a sharp point. Pectus sooty black; underside of abdomen brownish orange; head, thorax, and abdomen bright purple-blue.—Forewing bright purple-blue, changing more blackish in some lights, a hyaline streak in cell and a large one below median vein from base two-thirds along vein 1, a transverse hyaline postdiscal patch from subcosta at apex of cell to termen at vein 2.—Hindwing hyaline with black veins and a broad deep blue border.

Length of forewing: 21 mm.

*Hab.* Bogotá, Colombia, 1898.

60. *Agyrta ockendeni* sp. nov.

♀. Allied to *abdominalis*. Pectus sooty black; underside of abdomen white with median dark band; antennae black; head, thorax, and abdomen glittering blue.—Forewing, basal two-fifths glittering blue, rest sooty black glossed with dark blue, a hyaline streak in cell and a much larger and longer one below median vein, an oblique hyaline band from subcosta at apex of cell almost to termen at vein 3.—Hindwing sooty black glossed with dark blue, abdominal area glittering blue, a median hyaline band from base almost to termen.

Length of forewing: 17 mm.

*Hab.* La Union to Santo Domingo, Carabaya, Peru, 2000—6500 ft., January 1905 (wet season) (G. Ockenden).

61. *Agyrta pulchriformis* sp. nov.

♂. Pectus and underside of abdomen greyish white; head black with white frontal patch; antennae black; thorax and abdomen blue, patagia pale bluish grey.—Forewing black slightly glossed with blue, a large hyaline patch above vein 1 for four-fifths its length, an oblique postdiscal hyaline patch from subcosta almost to termen above vein 4.—Hindwing hyaline with black border glossed with blue and strongly dilated at abdominal area and apex.

Length of forewing: 14 mm.

*Hab.* La Oroya, Rio Inambari, Peru, September 1904, 3100 ft. (dry season) (G. Ockenden).

62. *Agyrta semihyalina* sp. nov.

♂. Pectus white; underside sooty black with two parallel white bands; head black; frons and two spots on vertex white; thorax and abdomen sooty black, spots on tegulae, central band of patagia and median band white.—Forewing sooty black, a broad semihyaline white band above vein 1 from base for three-fifths its length, an oblique postdiscal semihyaline patch from subcosta almost to termen at vein 3.—Hindwing sooty black with very broad median semihyaline white band.

Length of forewing: 16 mm.

*Hab.* Fonte Boa, Upper Amazons, July 1907 (S. M. Klages).

63. *Agyrta rubroanalis* sp. nov.

♀. Pectus sooty black; head, thorax, and abdomen sooty black glossed with blue, anal segment crimson, anal tuft sooty black.—Forewing, basal half hyaline with costa and inner margin broadly black glossed with blue and with a very large and wide hyaline oblique patch from subcosta at end of cell almost to termen at vein 2.

Length of forewing: 17 mm.; breadth 10 mm.

*Hab.* Cachabú, Western Ecuador (low country), January 1897 (W. H. Rosenberg).

64. *Agyrta germana* sp. nov.

♂. At first sight this insect's pattern is similar to *A. nitens*, but the dark margin of the hindwing reaches farther up the abdominal area and is more dilated inwards towards median vein. It is smaller, has narrower wings, and is not so blue, and can be at once distinguished by the white spots on the tegulae and at base of patagia, and by the two subdorsal and sublateral lavender-grey lines on the abdomen.

*Hab.* Albina, Surinam, January 1905 (type); La Vuelta, Caura, May 1903; La Union, Caura, May 1902; Corosita, Caura, June 1904; Maripa and Suapure (Caura), Venezuela, March 6, 1899 (S. M. Klages); ? (Felder coll.).

65. *Agyrta pseudodelphire* sp. nov.

♂. Pectus buff; underside of abdomen with two white bands; head and antennae black-brown; thorax black-brown, with white bands on patagia; abdomen brown, strongly glossed with blue.—Forewing purple brown, basal half of subcostal nervure white, a white oblique band at apex of cell from subcostal to vein 1 above tornus.—Hindwing sooty black, strongly glossed with blue, a central white band from base to half-way along vein 2.

♀ has shorter and much broader wings, and differs in having the frons white and vein 1 white in forewing.

Length of forewing: ♂ 20 mm.; ♀ 18 mm.

The hindwings are much bluer, and the median band is almost obsolete.

*Hab.* Merida, Venezuela (Briceño).

66. *Agyrta birchi* sp. nov.

♂ ♀. Pectus and underside of abdomen snow-white; head white, vertex and antennae black; thorax brown-black; abdomen blue with interrupted and somewhat obsolete white median line.—Forewing velvety black with oblique median white bar extending from subcostal towards tornus to half-way between median

and vein 1, fringe at apex white.—Hindwing above velvety black with white apical fringe, abdominal area broadly mouse-grey; below the abdominal one-third of wing, the basal third of costal area, and the apex pure white.

Length of forewing: 14 mm.

*Hab.* San Jacinthe Valley, Theophilo Ottoni, Minas Geraes, 1907-8 (F. Birch) (type); Minas Geraes, 1897 (ex coll. Fruhstorfer).

67. *Agyrta birchi borealis* subsp. nov.

♂. Differs from *b. birchi* in its larger size and white abdominal area of hindwings above.

Length of forewing: 16 mm.

*Hab.* Corosito, Caura River, June 1904 (S. M. Klages).

68. *Agyrta birchi pumila* subsp. nov.

♂ ♀. Differs from *b. birchi* by its small size, narrower and more pointed forewing, in the white abdominal area of hindwing above, and in the absence on hindwing below of white basal part of costal area and white apex.

Length of forewing: 12 mm.

*Hab.* Allianca, below San Antonio, Rio Madeira, and Calama, Rio Madeira, November--December 1907 (W. Hoffmanns).

69. *Delphire rufiventris hampsoni* subsp. nov.

♂. Pectus, underside of and sides of abdomen brick-red; basal joint of palpi brick-red; head, antennae, and thorax mouse-grey; collar and spots on tegulae crimson-scarlet; abdomen mouse-grey with brick-red intra-segmental rings on apical half.—Forewing mouse-grey, nervures darker, and some of the interspaces on basal half and postdiscally whitish semihyaline.—Hindwing sooty black washed with blue; abdominal area mouse-grey; median area greyish hyaline.

Length of forewing: 24 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft., June 1902 (dry season) (G. Oeckenden).

70. *Delphire rufiventris orientalis* subsp. nov.

♂. Differs from *r. hampsoni* by the scarlet vertex to head, much smaller size and deep brownish grey uniform colour of forewings and thorax.

Length of forewing: 20 mm.

*Hab.* Allianca, below San Antonio, Rio Madeira, November--December 1907 (W. Hoffmanns).

71. *Delphire rufiventris meridensis* subsp. nov.

♂ ♀. Differs from *r. hampsoni* by its very broad, clay-grey reniform forewing, absence of blue gloss on hindwing, and sooty black abdomen.

*Hab.* Merida, Venezuela (Briceño).

72. *Delphire klagesi* sp. nov.

♂. This is a near ally of *testacea* Druce, but much darker and more distinctly marked. Pectus brown; underside of abdomen and basal joint of palpi orange;

head and antennae brown-grey; vertex orange; thorax and abdomen brown-grey with very slight bluish gloss.—Forewing deep brown-grey with paler patch below cell and a white oblique postdiscal band from subcosta to vein 3 near termen.—Hindwing black, strongly glossed with dark blue, a median hyaline area.

♀ similar, but entire head orange, and forewing yellowish grey-brown.

Length of forewing: 22 mm.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, April 1905 (type); La Union, Caura River, March 1902; La Vuelta, Caura River, June 1903; Maripa, Caura River (S. M. Klages); St. Laurent du Maroni, Cayenne (E. Le Mout); Rio Demerara, British Guiana; Potaro, British Guiana; Calama, below Rio Machado, Rio Madeira, August—October 1907; Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns).

### 73. *Delphire infra-alba* sp. nov.

♂. Pectus, tibiae below, and underside of abdomen white; head, antennae, and thorax sooty black-brown, collar and small dots on tegulae crimson; abdomen sooty black, slightly glossed with dark blue.—Forewing sooty black-brown, intraneural spaces on basal half between subcosta and intraneural fold and a transverse postdiscal indistinct band semihyaline whitish.—Hindwing black, a central broad band hyaline.

♀ similar, but more sooty brown-grey in colour.

Length of forewing: 19 mm.

*Hab.* La Union, Caura River, August 1901 (type); Maripa, Caura River; La Vuelta, Caura River, June 1903; Guyapa, Caura River, 24. xi.—10. xii. 1902; San Esteban, Venezuela, July 1909 (S. M. Klages); St. Laurent du Maroni, Cayenne, December 1905 (E. Le Mout).

### 74. *Heliura assimilis* sp. nov.

♂. Allied closely to *H. tetragramma* Walk. Differs from that species in its white, **not** brick-red, pectus and underside of abdomen, in the crimson, **not** brick-red, apical half of abdomen above, in the black-brown, **not** reddish buff, basal half of abdomen above, and in the black, **not** orange-red, nervures in the forewings.

*Hab.* Santo Domingo, Carabaya, Peru, 6500 ft., November 1902 (G. Ockenden) (type); Goyaz Town, May 1906 (G. A. Baer).

### 75. *Heliura distincta* sp. nov.

♂. Pectus primrose yellow and rose pink; head, thorax, and antennae olive-wood brown; basal two-thirds of abdomen black, with basal orange dot; apical third sooty grey.—Forewing bright olive-wood brown, nervures, some marks on costa and a double subterminal band of hastate marks yellowish grey, an ill-defined transverse antemedial band, and a postmedial well-defined one from costa to vein 3, pinkish olive-white.—Hindwing velvety black glossed with blue, a large median basal semihyaline white patch.

Length of forewing: 19 mm.

*Hab.* Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns); ? (Felder coll.).

76. *Heliura klagesi* sp. nov.

♂ ♀. Nearest to *phaesoma* Druce. Differs in its pale yellowish salmon, **not** white, pectus and underside of abdomen, in the olive-brown, **not** orange-red, nervures of forewing, and in the semihyaline base of hindwing being less distinctly defined from the black-brown of the rest of the wing.

*Hab.* La Union, Caura River, May 1902 (type); Guyapa, Caura River, November 24—December 10, 1902 (S. M. Klages).

77. *Heliura klagesi meridionalis* subsp. nov.

This race is very much larger and darker.

Length of wing: *klagesi klagesi*, 16 mm.

” ” ” *meridionalis*, 20 mm.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, February 1905 (S. M. Klages) (type); Calama, below Rio Machados, Rio Madeira, August—October 1907 (W. Hoffmannus); La Union, Rio Huacamayo, Carabaya, Peru, 2000 ft., wet season, November 1904 (G. Oekenden).

78. *Heliura rubrocincta* sp. nov.

♂ ♀. Pectus, coxae, and underside of abdomen rosy primrose; head and antennae brown; thorax olive yellowish brown with sooty brown-black streaks and spots, abdomen sooty black, fourth, fifth, and sixth segments scarlet.—Forewing yellowish olive-grey with a number of sooty wood-brown streaks and spots all over, mostly coalescent on disc.—Hindwing: basal one-third semihyaline white, rest velvety black.

Length of forewing: 17 mm.

*Hab.* Guyapa, Caura River, November 24—December 10, 1902 (type); La Union, Caura River, 1901 and 1902 (S. M. Klages).

79. *Heliura germana* sp. nov.

♂. Similar to *sericea*, but abdomen above velvety black.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, February 1905 (S. M. Klages).

80. *Heliura bimaculata* sp. nov.

♂. Pectus and underside of abdomen white; frons white, vertex black, antennae black, collar crimson; thorax black with two whitish dots; abdomen brilliant metallic blue.—Forewing black, a patch in cell and one between veins 3 and 5 hyaline.—Hindwing black, median area hyaline. On underside hindwing and basal half of forewing brilliant pale metallic blue.

Length of forewing: 19 mm.

*Hab.* Bogotá, 1898.

81. *Heliura postflavida* sp. nov.

♂ ♀. Similar to *dolens* Schaus, but larger, and last two segments of abdomen orange, **not** black.

Length of forewing: ♀ *dolens*, 15 mm.

” ” ” *postflavida*, 18 mm.

Breadth of forewing : ♀ *dolens*, 6.5 mm.

" " " " *postflavida*, 9 mm.

*Hab.* Maripa, Canra River (S. M. Klages).

### 82. *Heliura fuliginosa* sp. nov.

♀. Head, body, and antennae above and below sooty black.—Forewing sooty dark grey, intraneural spaces on disc more or less vitreous.—Hindwing hyaline with black margins strongly dilated at and near torus.

Length of forewing : 16 mm.

*Hab.* Pozuzu, Huanco, Peru, 800–1000 metres (W. Hoffmanns).

### 83. *Heliura viridicingulata* sp. nov.

♂. Pectus and underside of abdomen white; head and antennae black with minute white points; thorax brown-black, a white point on tegulae; abdomen black with metallic green rings interrupted at median line.—Forewing brown-black, a semihyaline whitish streak below median vein and a broad oblique hyaline postmedian band from subcosta to vein 3.—Hindwing hyaline, whitish with irregular black margins and nervures.

Length of forewing : 15 mm.

*Hab.* Rio Toro, La Merced, August–September 1901 (Simons).

### 84. *Heliura elongata* sp. nov.

♂. Remarkable for the long narrow forewings. Pectus white, underside of abdomen sooty black with two transverse white bands; head black; antennae black with white tips and yellow spot at back of base; thorax black with blue gloss, and yellowish olive-grey patches and an apical yellow spot; abdomen black with blue gloss, anal tuft whitish.—Forewing yellowish olive-grey, base black with golden spot nervures, a median, and a postmedian, irregular broad bands blackish brown.—Hindwing: basal third hyaline, rest black with blue gloss.

Length of forewing : 18 mm.

*Hab.* Maripa, Canra River, La Vuelta, Canra River, May 1904 (S. M. Klages).

### 85. *Heliura coerulecephala* sp. nov.

♂. Pectus whitish; head shining blue; thorax metallic yellowish blue tegulae with crimson patch, patagia brown with paler stripe; abdomen brilliant metallic blue, with long black hair on basal three segments.—Forewing wood-brown with nervures dark brown.—Hindwing black glossed with blue, some of the intraneural spaces in median area semihyaline grey.

Length of forewing : 20 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft., June 1901 (G. Oekenden).

### 86. *Heliura lemoulti* sp. nov.

♂. Allied to *suffusa* Lathy, but forewings not so variegated. Pectus and base of coxae scarlet; head and antennae dark brown, vertex with two crimson spots; thorax black-brown; abdomen black with glittering blue-green lateral bands (or rather the sides are glittering blue-green).—Forewing black-brown, an indistinct



brownish-grey spot in cell and a similar one beyond it.—Hindwing semihyaline greyish-white with very broad irregular black margins.

Length of forewing : 20 mm.

*Hab.* St. Laurent du Maroni, Cayenne, January 1906 (E. le Mout).

87. *Heliura fumata* sp. nov.

Unfortunately both specimens of this distinct species are badly rubbed.

♂. Pectus whitish, underside of abdomen sooty black-brown with two white bands ; head, thorax and antennae sooty brown-black, crimson spots on tegulae ; abdomen sooty brown-black with slight blue gloss.—Forewing sooty brown.—Hindwing sooty black with two broad whitish longitudinal patches in abdominal third of wing.

Length of forewing : 20 mm.

*Hab.* Pambilar, Ecuador (Flemming and Miketta) ; La Union, Rio Huacamayo, Carabaya, Peru, 2000 ft., wet season, December 1904 (G. Ockenden).

88. *Heliura ockendeni* sp. nov.

♂. Pectus and underside of abdomen buffy yellow : frons black, vertex yellowish grey, collar golden, antennae sooty black, white towards base ; thorax yellowish grey with black streaks and margins, tegulae black, yellowish grey in front ; abdomen first four segments black followed by three orange ones, anal segment black with buff dot.—Forewing white, costal and inner areas and nervures yellowish buff, a subbasal black transverse band from which emanate several short black lines along costa and other nervures, a black spot above and below costa, a black spot in cell and one on costa above it, an irregular sooty black median band from costa to inner margin, a similar postdiscal one from costa to vein 4, and a subterminal row of sooty black spots, terminal fringe from apex to vein 4 sooty black.—Hindwing : basal two-thirds semihyaline greyish-white, abdominal area mouse-grey, rest of wing sooty black.

Length of forewing : 17 mm.

*Hab.* Rio Huacamayo, Carabaya, Peru, dry season, 3100 ft., June 1904 (G. Ockenden).

89. *Heliura pieroides* sp. nov.

♀. There appear to be three very closely allied species, two of which have been much confused, but it seems that, according to available material, two have no names, the third having been referred to *pierus* Stoll. Pectus and underside of abdomen buff ; head grey, vertex yellow ; antennae dark black-brown, basal third of shafts white ; thorax mouse-grey with sooty black spots and streaks ; tegulae sooty black with grey margins ; abdomen brown-black, a buffy yellow spot on two basal segments.—Forewing whitish grey, nervures more olive-grey, a subbasal black narrow transverse band, a black spot on each side of vein near centre, a black spot in cell and one on costa above it, a broad discal irregular sooty black band at end of cell from costa to inner margin bifurcating below vein 2, a row of slightly obliterated sooty black subterminal spots and a postdiscal patch between costa and vein 4.—Hindwing sooty grey with semihyaline whitish patch in and above cell.

Length of forewing : 19 mm.

*Hab.* Fonte Boa, Upper Amazons, August 1907 (S. M. Klages).

90. *Heliura stoll*i sp. nov.

♂ ♀. Pectus and underside of abdomen deep rose-colour; head yellowish grey, vertex and collar crimson; antennae black; thorax and abdomen dark mouse-grey, bases of tegulae and patagia greyish-yellow, tips of patagia paler grey.—Forewing: basal three-fourths greyish olive-yellow, apical one-fourth sooty grey with paler transverse median line, a sooty grey-black patch at base, a sooty grey-black spot below and above vein 1 one-third from base, a black spot in cell and one on costa above it, a double transverse row of sooty grey-black spots at end of cell.—Hindwing dark sooty grey.

Length of forewing: ♂ 17 mm., ♀ 19 mm.

*Hab.* Fonte Boa, Upper Amazons, August 1907 (S. M. Klages) (type); Teffé, Amazons, September 1907 (M. de Mathan). Some females have the forewings greyer, less yellow.

91. *Heliura stoll*i *meridionalis* subsp. nov.

♂. Differs from *stoll*i *stoll*i in the black abdomen, grey thorax, and the beautiful pearl-grey forewings with blue-grey spots and nervures.

*Hab.* Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns).

92. *Heliura rufipes* sp. nov.

♀. Pectus brown, underside of abdomen pale rose; legs pale carmine, foretibiae marked with fuscous; head yellowish brown-grey spotted with black, collar and hind-vertex light carmine; thorax olive-grey with sooty brown spots and a yellow line on patagia; abdomen light carmine ringed with black.—Forewing grey, nervures yellow, a number of black spots ringed with yellow on basal third of wing, a broad irregular discal transverse band of sooty brown-black from costa to inner margin, a similar postdiscal band from costa to vein 5, a submarginal band of sooty brown-black patches.—Hindwing sooty black, a semihyaline greyish-white patch above, in and below cell.

Length of forewing: 21 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6500 ft., wet season, December 1902 (G. Oeckenden).

93. *Heliura griseipuncta* sp. nov.

♂. A small species close to but smaller than *balium* Hamp. Pectus rose scarlet, underside of abdomen buff; head dark grey, collar carmine; thorax mouse-grey with darker grey streaks and spots; abdomen carmine, anal tuft black.—Forewing pale grey with blackish base and a few dark grey spots on basal two-fifths, a broad discal band of dark grey spots, and apical one-fifth densely spotted with dark grey.—Hindwing sooty grey with an irregular central area semihyaline pale grey.

Length of forewing: 13 mm.

*Hab.* Rio Demerara, British Guiana, July 1897.

94. *Apocerea hoffmannsi* sp. nov.

♂. Allied to *zonata* Druce. Pectus and underside of abdomen except last two segments buff; frons pale grey, vertex and collar orange; antennae blackish

grey; thorax pale grey, margins of patagia and median line black; abdomen orange, broad sublateral bands and apical segment black.—Forewing greyish white, nervures sooty black, a black patch on and below vein 1 for one-third its length, ending in an upwardly curved line, two arrow-shaped marks on outer half of vein 1, a number of dark sooty grey patches on costa, at apex of cell, near tornus, and on apical fifth of wing.—Hindwing semihyaline white, with narrow sooty brown margins, abdominal area pale mouse-grey.

Length of forewing: 18 mm.

*Hab.* Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns) (type); Maripa, Caura River (S. M. Klages).

95. *Eucereon maricum amazonicum* subsp. nov.

♂. Similar to *m. maricum*, but the spots on the wing more coalesced, the postdiscal band yellow, and the oval subbasal mark more distinct and regular; border of hindwings less intense black and more irregular.

*Hab.* Fonte Boa, Upper Amazons, May 1906 (S. M. Klages); Amazons (Bates) (Felder coll.).

96. *Eucereon postcoeruleum* sp. nov.

♂. At once distinguishable from *maricum* Cram. by the entirely Nile blue hindwings, with only the fringe and a broad patch at apex black.

*Hab.* Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns) (type); Calama, Rio Madeira (W. Hoffmanns); La Vuelta, Caura River, May 1903, Maripa, Caura River (S. M. Klages); Rio Demerara, British Guiana.

97. *Eucereon perexcavatum* sp. nov.

♂. Differs from *excavata* Dogn. by the sooty black, **not** salmon pink, underside of abdomen, by the uniform grey thorax, by the olive-yellow, **not** whitish grey, ground-colour of basal four-fifths of forewings, by the deep grey hindwings, which have the concavity of the terminal area deeper and the tornus more pointed and more produced. The abdomen above is also uniform slaty grey, **not** with apical half pale crimson.

Length of forewing: *excavata*, 17 mm.

” ” ” *perexcavatum*, 19 mm.

*Hab.* Fonte Boa, Upper Amazons, August 1907 (S. M. Klages).

98. *Eucereon kennedyi* sp. nov.

♀. Pectus and underside of abdomen pale carmine; head sooty grey, collar orange; antennae sooty grey with white tips; thorax sooty grey with some lighter markings; abdomen black, last three segments rosy carmine.—Forewing pinkish orange-buff, basal two-fifths with a number of dark grey spots, a median broad irregular band of such spots, a subterminal row of similar spots, and a dark grey postdiscal patch reaching from costa to vein 5.—Hindwing: basal three-fifths semihyaline grey, outer two-fifths dark sooty grey.

Length of forewing: 16 mm.

*Hab.* Minas Geraes, South Brazil, October 19, 1900 (Kennedy).

99. *Eucereon integrum* sp. nov.

♂. Nearly allied to *eccavata* Dogn., but with the terminal margin convex. Pectus and underside of abdomen carmine; legs and palpi uniform intense black; head grey, antennae black; thorax grey streaked and spotted with darker grey; thorax carmine, a yellow spot on basal segment, anal tuft black.—Forewing yellowish mouse-grey, a subbasal band, a spot on each side of vein 1, one in cell and one above it on costa black, a broad irregular discal band of dark grey spots, apical third dark grey with a pale grey transverse line.—Hindwing dark sooty grey, a pale semihyaline grey patch above cell.

Length of forewing: 19 mm.

*Hab.* Ponte Boa, Upper Amazons, May 1906 (S. M. Klages).

100. *Eucereon steinbachi* sp. nov.

♀. Pectus and underside of abdomen pink; head and antennae sooty grey, collar golden; thorax olive-yellow, margins sooty grey; abdomen yellowish crimson, anal tuft and long rough hair on first three segments sooty grey.—Forewing olive yellow, a terminal patch between veins 2 and 4 cream-white: the whole wing is covered with longitudinal dark sooty grey spots and lines which at end of cell, through being broken up, form a sort of roundish patch of smaller spots.—Hindwing sooty grey.

Length of forewing: 20 mm.

*Hab.* Buenavista, East Bolivia, 750 metres, August 1906—April 1907 (José Steinbach).

101. *Eucereon buchwaldi* sp. nov.

♂. Closely allied to *punctatum* Guér. Differs from that species by the yellowish grey-white, **not** dark grey, pectus and underside of abdomen, by the dark grey markings on the thorax, by the median row of dark grey spots on abdomen, and by the irregular, often arrow-shaped spots and streaks on forewing **instead** of regular oval spots.

*Hab.* Quevedo, West Ecuador (von Buchwald).

102. *Eucereon dilutius* sp. nov.

♂. Closely allied to *leria* Druee. Differs by the much larger, more separated, and somewhat obliterated dark spots on forewing and the much greater extent of orange-yellow on nervures and borders of spots.

Length of forewing: 21 mm.

*Hab.* Minas Geraes, S. Brazil (Kennedy) (type); Onaca, Sta Marta, 2000 ft. (Engelke).

103. *Eucereon rubroanale* sp. nov.

♂. Allied closely to *cinctum* Schaus. Differs by its sooty black, **not** buff or whitish, underside of abdomen, its much darker thorax, its black-brown, **not** rufous grey-brown, forewings with the light marks reduced to a faint dot in cell and a very thin waved postmedian transverse line; the pale area of hindwings is darker and less hyaline, so that the outer and dark half stands out much less distinctly.

♀ differs from male in having red colour of three end segments of abdomen much reduced.

Length of forewing: *vinctum*, 15 mm.

    "    "    "    *rubroanale*, 12 mm.

*Hab.* San Esteban, Venezuela, June 1909 (S. M. Klages) (type); Yungas de Coroico, Bolivia, 1800 metres (Garlepp).

104. **Eucereon rosenbergi** sp. nov.

♂ ♀. Distinguished from *melanoperas* Hamps. by its larger size, large white postcellular patch in forewings, and by its sooty black, **not** red, underside of abdomen.

Length of forewing: ♂ 17 mm., ♀ 14 mm.

*Hab.* Paramba, Ecuador, 3500 ft., dry season, July 1897 (W. H. Rosenberg); Paramba, Ecuador, January—August 1899, Lita, Ecuador, 3000 ft. (Flemming).

105. **Eucereon melanoperas bolivianum** subsp. nov.

♂. Differs from *m. melanoperas* in having the light patches on the forewing greyish white, **not** dark grey.

*Hab.* Yungas de Coroico, Bolivia, 1800 metres (Garlepp).

106. **Eucereon formosum dognini** subsp. nov.

♂ ♀. Differs from *formosum formosum* in forewing being a dirtier yellowish grey-white, and hindwing a browner grey.

*Hab.* Jalapa, Mexico, April 1897 (W. Schaus) (type); San Carlos, Costa Rica, June 1899 (Underwood).

107. **Eucereon quadricolor boreale** subsp. nov.

♂ ♀. Smaller and brighter than *q. quadricolor*, black spots larger; forewing ground greyer, hindwing darker blackish grey.

*Hab.* San Esteban, Venezuela, June 1909 (S. M. Klages).

108. **Eucereon quadricolor meridionale** subsp. nov.

♂ ♀. Still smaller; ♂ almost uniform grey on fore- and hindwing; ♀ has forewing very white, hindwing yellowish brown-grey.

*Hab.* Sapucay, Paraguay, 7. i. 1905 (W. Foster); Paraguay (Dr. Bohls).

Length of forewing: *quadricolor quadricolor*, ♀ 21 mm.

    "    "    "    *boreale*, ♀ 16 mm.

    "    "    "    *meridionale*, ♀ 15 mm.

109. **Eucereon patronides** sp. nov.

♂. Differs from *patrona* Schaus in the pale carmine, **not** buff, pectus and underside of abdomen, in the wider wings, less concave termen of hindwings, in the heavy black patches above the longitudinal black band of forewings, and in the heavier and denser general black spots and streaks of forewing.

Length of forewing: 21.5 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft. dry season, May 1902 (G. Ockenden).

110. *Eucereon conspicuum* sp. nov.

♂. Pectus and underside of abdomen pale earmine: palpi and head yellow, antennae black; thorax velvety black, inner half of tegulae and a large patch near base of abdomen yellow; abdomen crimson, basal and anal segments and median line of spots dark sooty grey.—Forewing olive-greyish yellow; nervures, a large subbasal patch followed by a wavy line, a spot on costa and in cell, a very large discal patch, a postdiscal waved line and patch from costa to vein 5, a subterminal row of dots and a terminal line velvety black.—Hindwing semihyaline white, nervures brown, margins, apical and abdominal areas grey.

♀ has yellow of forewing brighter and abdomen above and below golden orange.

Length of forewing: 26 mm.

*Hab.* Paramba, Ecuador, January—August 1899 (Flemming) (type); Carreblanco, Costa Rica (Lankester).

111. *Eucereon fosteri* sp. nov.

♂♀. Differs from *leprota* Druce in its entirely red abdomen, only last segment being dark, in the more densely spotted forewings and in the greyish white semihyaline hindwings.

Length of forewing: ♂ 19 mm., ♀ 22 mm.

*Hab.* Sapueay, Paragnay, 2. xi. 1903 (W. Foster) (type); Patino Cué, Paragnay (Montforts).

112. *Eucereon pseudocasca* sp. nov.

♂♀. Differs from *casca* in the white, **not** yellow, patch on underside of abdomen, in the pale sea-green, **not** greyish orange, ground colour, in which the dark markings are much obliterated, and in the much whiter basal two-thirds of hindwings.

Length of forewing: 19 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft., wet season, January 1902 (G. Ockenden).

113. *Eucereon bricenoi* sp. nov.

♂♀. Differs from *flavicaput* by its paler yellow ground colour, with discal portion of forewing and a postdiscal band from subcosta to vein 3 white.

*Hab.* Merida, Venezuela (Briceño) (type); Choachi, Colombia, January 24, 1898.

114. *Eucereon griseatum* sp. nov.

♂♀. Differs from *bricenoi* in having all yellow portions of forewings olive-brown grey; hindwings in ♂ white on basal three-fourths, in ♀ uniform dark grey.

*Hab.* Tinguri, Carabaya, Peru, 3400 ft., dry season, August 1904 (type); Santo Domingo, Carabaya, 6000 ft., dry season, July 1902; La Oroya, Río Inambari, S.E. Peru, 3100 ft., March to September 1905 (G. Ockenden); Chanchamayo, Peru (Schuncke).

115. *Eucereon albidius* sp. nov.

♂. Head whitish grey with orange spots; antennae black; thorax whitish with narrow sooty black margins; abdomen dark sooty grey with large orange patch on

last two segments.—Forewing creamy white, three irregular zigzag transverse lines, the nervures and a large patch on and around discocellulars sooty brown.—Hindwing sooty grey, nervures darker.

♀ has ground colour of forewings greyer and disc of hindwing paler.

Length of forewing : 27 mm.

*Hab.* Fonte Boa, Upper Amazons, September 1906 (S. M. Klages) (type). Manaos, Amazons, September 1906 (M. de Mathan) ; Rio Janeiro.

#### 116. *Eucereon schausi* sp. nov.

♂ ♀. Similar to *scytou*, but much larger and whiter.

Pectus and two very broad bands on underside of abdomen white ; head grey with orange spots ; thorax greyish white edged with sooty grey ; abdomen sooty grey, last segment yellow with basal black line or ring.—Forewing white, a patch on discocellulars, some irregular spots and streaks and the nervures brown-black.—Hindwing semihyaline grey with darker margins.

♀ sometimes slightly greyer.

Length of forewing : ♂ 19 mm., ♀ 23 mm.

*Hab.* Jalapa, Mexico, April 1896 (W. Schaus) (type) ; San José, Costa Rica (Underwood) ; Tuis, Costa Rica ; Onaca, Sta Marta, 2000 ft., wet season, November 1901 (Engelke) ; Paramba, Ecuador, November—December 1898 (W. H. Rosenberg) ; Lita, Ecuador, 3000 ft. (Flemming).

#### 117. *Eucereon tessellatum* sp. nov.

♂. Nearest to *marmoratum* Butl. Differs in being smaller with narrower forewings. The patagia are pale yellowish grey with brown-black borders, **not** dark grey with central black band ; the whole thorax is yellowish grey, **not** dark grey.—Forewings yellowish grey, **not** dark grey ; basal fourth shaded with dark brown and the antemedial transverse angulated lines are only visible below vein 1 ; nervures dark brown, a large irregular oblique wedge-shaped band of dark brown from costa to tornus and two brown bands in apical region.

Length of forewing : *marmoratum*, 23 mm.

Breadth       "       "       10 mm.

Length         "       *tessellatum*, 18 mm.

Breadth       "       "       7 mm.

*Hab.* La Vuelta, Caura River, Venezuela, May 1903 (S. M. Klages) (type) ; Maripa, Caura River (S. M. Klages) ; La Union, Caura River, August 1901 (S. M. Klages) ; Aroewarwa Creek, Maroewym Valley, Surinam, April 1905 (S. M. Klages) ; Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns).

#### 118. *Eucereon marmoratum* ab. *atratum* ab. nov.

Forewings and thorax sooty brown-black with marbling darker.

*Hab.* La Union, Caura River, September 27—October 15, 1901 (S. M. Klages).

#### 119. *Eucereon obliquifascia* sp. nov.

♀. Similar to *piloti* Walker, but paler and the spotting on forewings larger and more irregular ; the black streak on vein 3 is wanting and a broad oblique dark brown band crosses the wing from costa near middle of cell to tornus.

*Hab.* Port of Spain, Trinidad (F. Birch).

120. *Eucereon strix* sp. nov.

♂. Pectus and underside of abdomen whitish clouded with dark brown; head, antennae, thorax, and abdomen dark sooty brown.—Forewing wood-brown densely irrorated with darker brown, a broad blackish line starts across wing from costa two-fifths from base and curves round, joining base of wing on vein 1; a dark line on discocellulars, a curved postdiscal transverse line, followed by an oblique whitish one to termen above vein 2, a curved subterminal line and apex whitish.—Hindwings semihyaline sooty grey, nervures and outer two-fifths darker.

Length of forewing: 24 mm.

*Hab.* San Cajetano, Colombia, 8000 ft., September 1902.

121. *Eucereon fuscatum* sp. nov.

♂. Pectus brown; underside of abdomen yellow banded with black; antennae black; head dark brown with orange spots; thorax dark brown; abdomen black, anal tuft orange.—Forewing pale earth-brown or greyish wood-brown with irregular basal, median, postmedian, and subterminal dark brown bands.—Hindwing: basal half semihyaline mouse-grey, outer half dark grey.

Length of forewing: 17 mm.

*Hab.* Chimbo, Ecuador, 1000 ft., August 1897 (W. H. Rosenberg).

122. *Eucereon flemmingi* sp. nov.

♂. Pectus and underside of abdomen buff; antennae sooty black; head dark wood-brown, two orange spots on vertex; thorax wood-brown; abdomen crimson scarlet, a large patch of brown-grey hairs on middle of first three segments, last segment and sublateral lines dark wood-brown.—Forewing pale wood-brown, disc with eight large and rest of wing with bands of smaller similar dark brown patches.—Hindwing semihyaline brown-grey, nervures darker.

Length of forewing: 22 mm.

*Hab.* Lita, Ecuador, 3000 ft. (Flemming).

123. *Eucereon hampsoni* sp. nov.

♂. Very closely allied to *acolum* Hamps. Differs by pectus and underside of abdomen being pink, **not** yellow, the markings of the forewings more coalescent and less distinct, and the hindwing being semihyaline sooty black, **not** pale grey.

Length of forewing: 16 mm.

*Hab.* Santa Cruz de la Sierra, Bolivia, 1905—1906 (José Steinbach).

124. *Eucereon lithosioides* sp. nov.

♂. Pectus and underside of abdomen wood-brown; antennae brown; head and thorax pale yellowish wood-brown; abdomen sooty brown, anal tuft yellowish.—Forewing: basal four-fifths pale yellowish wood-brown, an ante- and a postmedian curved transverse shadowy band somewhat darker brown, a discocellular minute dot, one on median nervure, one at base of vein 2, and two on vein 1 near middle, and at tornus black, outer fifth brownish buff.—Hindwing brownish grey, somewhat semihyaline on disc.



♀ similar, but with transverse bands more distinct, the whole wing covered with minute striations and two distinct black dots on discocellulars.

Length of forewing: ♂ 19 mm.; ♀ 17 mm.

*Hab.* Rio Janeiro, Brazil (type); La Union, Caura River, Venezuela, September 27—October 15, 1901 (S. M. Klages).

125. **Eucereon fuscobrunneum** sp. nov.

♂. Uniform dark olive-brown; abdomen black with yellow anal tuft.—Forewing with two transverse darker lines, a whitish oblique postdiscal shade from costa to tornus.—Hindwing semihyaline sooty black.

♀ larger, and hindwing blacker.

Length of forewing: ♂ 15 mm.; ♀ 17.5 mm.

*Hab.* Paramba, Ecuador, January—May 1897 (W. H. Rosenberg).

126. **Eucereon fuscoirroratum fuscoirroratum** subsp. nov.

♂. Uniform dark chocolate brown, irrorated on forewing with several irregular yellowish grey transverse lines and bands.

Length of forewing: 14 mm.

*Hab.* La Union, Caura River, Venezuela, May 1902 (S. M. Klages).

127. **Eucereon fuscoirroratum minus** subsp. nov.

♂. Differs from *f. fuscoirroratum* by its smaller size and the orange lateral spots on each side of abdominal segments 3, 4, 5, and 6.

*Hab.* Allianca, below San Antonio, Rio Madeira, November—December 1907 (W. Hoffmanns).

128. **Eucereon striatum pallescens** subsp. nov.

♂ ♀. Differs from *striatum striatum* in the ground colour being much paler and more buff, and the striations less distinct and somewhat obliterated.

*Hab.* Castro, Parana, October—November 1901 (E. D. Jones).

129. **Eucereon picoides** sp. nov.

♂. Near to *pica* Walk. and *coenobitum* Moeschl. Differs from latter in the cream, **not** white, ground colour of forewing and in the dark patches being larger, more coalescent, and browner, less black.

*Hab.* Onaca, Sta. Marta, 2200 ft., wet season, September—October 1901 (Engelke).

130. **Eucereon tigrisoma** sp. nov.

♀. Allied to *tigrata* Herr.-Schaeff. Pectus divided black and white, underside of abdomen, except last two segments, white; head white, antennae black; thorax white, tegulae black with white edges, patagia white with black edges; abdomen black, basal segment and broad wedge-shaped dorsal band slate-grey, large orange lateral patches on segments 3 to 7.—Forewing white, basal half with a number of black spots and patches, a discal oblique somewhat irregular black band from costa above discocellulars to tornus, wing beyond this band with

a number of scattered spots and a subterminal row black.—Hindwing: basal two-thirds semihyaline white, outer third brownish grey.

Length of forewing: 21 mm.

*Hab.* Preto, Brazil.

131. *Eucereon moeschleri* sp. nov.

♂. Pectus and underside of abdomen brownish white; head and thorax pale yellowish wood-brown streaked with darker grey-brown; abdomen lemon yellow, two basal segments, dorsal band, and anal segment testaceous grey.—Forewing pale brownish olive-yellow with a few whitish semihyaline markings and streaked and spotted with brown.—Hindwings semihyaline white edged with mouse-grey.

Length of forewing: 19 mm.

*Hab.* Jamaica.

132. *Eucereon confusum* sp. nov.

♂ ♀. This species has hitherto been mixed up with *confine* Herr.-Schaeff. It differs in the smaller size of the ♂ and in the greenish white to olive-grey ground of forewings with greyish olive-yellow nervures instead of the pure white ground with mouse-grey nervures of *confine*. The spots on forewings are not deep black, but sooty and brownish; the yellow portions of abdomen are lemon, not orange yellow.—Hindwing dirty grey.

Length of forewing: ♂ *confine*, 24—26 mm.; ♂ *confusum*, 20—21 mm.

*Hab.* Chiriqui, Panama (type): Jalapa, Mexico, March 1897 (W. Schans); Caracas, Venezuela: Merida, Venezuela (Briceno); San José, Costa Rica, May—June 1899 (Underwood); Popayan (Lehmann); Tucuman, April—May 1905 (José Steinbach); Ciudad de Tucuman, April 1903 (L. Monetti).

133. *Eucereon confusum amazonum* subsp. nov.

♂. Browner than *c. confusum*, markings more indistinct, hindwing and fringe pure semihyaline white.

♀. Darker hindwing, dark grey.

*Hab.* Fonte Boa, Amazons, July 1906 (type); Aroewarwa Creek, Maroewym Valley, Surinam, May 1905 (S. M. Klages); Surinam, February 1892.

134. *Eucereon parambae* sp. nov.

♂ ♀. Pectus and underside of abdomen dirty yellow, head and antennae dark grey, collar yellow, a black spot on vertex; thorax mouse-grey with dark spots; abdomen orange, anal tuft grey.—Forewing greyish white, nervures grey, a sub-basal and antemedian transverse row of dark grey spots, a median double band of dark grey large spots breaking into three below the median nervure, one of the branches going outwards to tornus, postmedian and subterminal bands of dark grey spots from costa to vein 3.

Hindwing dark grey.

Length of forewing: 19 mm.

*Hab.* Paramba, Ecuador, 3500 ft., January to July 1899, and June 1897 (Flemming and W. H. Rosenberg) (type); Lita, Ecuador, 3000 ft. (Flemming); Qnevedo, West Ecuador (von Buchwald).

135. *Eucereon buchwaldi* sp. nov.

♂ ♀. Pectus and underside of abdomen dirty yellow; head and antennae dark grey, collar yellow; thorax grey, tegulae pale grey; abdomen dark yellow.—Forewing pale grey with bands of darker grey spots and patches, four spots on basal half above and below vein I ringed with yellow.—Hindwing semihyaline whitish grey with broad mouse-grey margins and apex.

Length of forewing: 14 mm.

*Hab.* Quevedo, West Ecuador (von Buchwald).

136. *Eucereon rufidorsale* sp. nov.

♂. Pectus and underside of abdomen rosy buff; head, thorax and antennae dark grey, collar orange; abdomen scarlet, anal tuft dark grey.—Forewing: basal half white, a basal black spot with grey patch below it, a complete transverse antemedial line followed by a broken one of dark grey spots, outer half of wing white with nervures yellowish, a broad band of large irregular coalescent dark grey patches from costa above discocellulars to tornus, a subapical band of dark grey from costa to vein 5, apex and subterminal row of spots dark grey.—Hindwing semihyaline mouse-grey.

Length of forewing: 17 mm.

*Hab.* Paramba, Ecuador.

137. *Eucereon sordidescens* sp. nov.

♂. Allied to *carabayana* Schaus, but duller, darker, and has pattern on forewing much obliterated. Pectus sooty brown; underside of abdomen, basal half whitish, rest sooty brown; head blue; antennae black; thorax and abdomen sooty wood-brown.—Forewing pale wood-brown clouded on outer two-thirds with patches of darker brown.—Hindwing semihyaline pale wood-brown.

♀ has hindwings paler.

Length of forewing: 19 mm.

*Hab.* Merida, Venezuela (Briceño) (type); Santo Domingo, Carabaya, Peru, 6000 ft., wet season, December 1902 (G. Oeckenden).

138. *Eucereon nervulum* sp. nov.

♀. Pectus sooty brown; underside of abdomen, basal half whitish, rest sooty brown; antennae black, head sooty brown with blue gloss; thorax and abdomen sooty wood-brown.—Forewing dirty white, nervures brown, across disc and largely at apex the wing is deeply clouded with dark brown.—Hindwing semihyaline grey, darker on outer fourth.

Length of forewing: 15 mm.

*Hab.* Paramba, Ecuador, 3500 ft. (W. H. Rosenberg) (type); Lita, Ecuador, 3000 ft. (Flemming).

139. *Eucereon nubilosum* sp. nov.

♂ ♀. Pectus sooty purple-brown; underside of abdomen, basal half white, rest sooty purple-brown; head and antennae black with blue gloss; thorax sooty brown, paler in centre; abdomen sooty brown.—Forewing, basal half brownish white, with base and a few indistinct streaks darker, more brown, outer two-thirds purple-

brown with whitish cloudlike marks in outer third.—Hindwing semihyaline white, apex dark grey.

Length of forewing : ♂ 13.5 mm., ♀ 17 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6500 ft., October 1902 (G. Ockenden) (type); Caracas, Venezuela; Onaca, Sta Marta, 2000 ft. (Engelke).

140. *Eucereon coeruleocaput* sp. nov.

♂. Pectus sooty black; underside of abdomen, basal half white, rest sooty black banded with white; head metallic blue; antennae black; thorax dirty whitish grey edged with sooty black, abdomen pale sooty black.—Forewing creamy white powdered with brown scales, base black-brown, nervures black-brown; an irregular patchy oblique dark brown band from costa one-fourth from base almost to tornus, much expanded from below median vein; a patch above and one on discocellulars, one at apex and one between veins 3 and 5 deep brown.—Hindwing semihyaline white, apex broadly and apical half of termen dark grey.

Length of forewing : ♂ 24 mm., ♀ 26 mm.

*Hab.* Oconeque, Carabaya, Peru, 7000 ft., dry season, July 1904 (type); Santo Domingo, Carabaya, 6500 ft., wet season, December 1902 (G. Ockenden); Cnshai, Province Huancu, Peru, 6224 ft. (W. Hoffmanns).

141. *Eucereon hoffmannsi* sp. nov.

♂. Similar to *lineatum* Dogn. but much smaller. Differs in the ground-colour of forewings being pale testaceous, **not** semihyaline white, the markings less sharply defined and of a dull wood-brown, **not** bright chocolate. Anal segment of abdomen bright yellow, **not** dirty brown.

Length of forewing : *hoffmannsi*, 20 mm.

” ” ” *lineatum*, 25 mm.

*Hab.* Poznzu, Huancu, Peru, 800—1000 metres (W. Hoffmanns) (type); Paramba, Ecuador; Quevedo, W. Ecuador (von Buchwald).

142. *Eucereon ockendeni* sp. nov.

♂♀. Differs from *lineatum* Dogn. in the thorax and abdomen being pale yellowish grey, **not** grey-brown, and in the forewings being less hyaline and the pattern less distinct and grey-brown, **not** chocolate, and on basal half of wings almost obliterated.

Length of forewing : 21—24 mm.

*Hab.* La Oroya, Rio Inambari, S.E. Peru, 3100 ft., wet season, March 1905 (type); Santo Domingo, Carabaya, Peru, 6000 ft., dry season, June 1902 (G. Ockenden); Paramba, Ecuador, January—May 1897 (W. H. Rosenberg); Lita, Ecuador, 3900 ft. (Flemming); La Union, Caura River, June 1902 (S. M. Klages); Caracas, Venezuela.

143. *Correbia elongata* sp. nov.

♂. This is a species somewhat intermediate between *lycoides* Walk. and *undulata* Drnce. It has the black upperside of abdomen and narrow wings of *lycoides* and more the coloration of wings of *undulata*. Pectus buff; underside

of abdomen sooty black; palpi and antennae black; head orange rufous, lower half of frons and central spot on vertex black; thorax black, outer two-thirds of tegulae and basal two-thirds of patagia orange rufous; abdomen black, sides of basal segment and a narrow sublateral line on segments 2 to 5 orange rufous. —Forewing orange rufous; base of wing, basal half below vein 1, a median broad band from costa almost to vein 1 and apical fourth of wing above vein 2 black; in the black apical portion are dull grey streaks giving it a corrugated appearance. —Hindwing hyaline pearl-grey with sooty black border, a yellow rufous patch in costal region above vein 5.

♀ similar, but wings broader.

Length of forewing: ♂ 25 mm., ♀ 27 mm.

Breadth „ „ ♂ 7 mm., ♀ 9.5 mm.

*Hab.* Sta Catharina, S. Brazil (type); Petropolis (W. Schaus); Rio de Janeiro.

#### 144. *Correbia elongata boliviana* subsp. nov.

♀. Differs from *elongata elongata* in the broad orange rufous lateral bands on abdomen, the paler buffy rufous ground colour of forewings, and the absence of the grey streaks in black apex.

*Hab.* Buenavista, East Bolivia, 750 metres, August 1906—April 1907 (José Steinbach).

#### 145. *Correbia bricenoi* sp. nov.

♂♀. At once distinguishable from all the larger species described by the great breadth of the wings. Pectus and underside of abdomen sooty black; palpi and antennae black; head dull orange rufous, lower half of frons and central patch on vertex black; thorax dull orange rufous with central black line; abdomen sooty black. —Forewing orange rufous, an antemedian transverse band from costa to vein 1, the median one-third of wing below vein 1 and the apical fifth of wing black. —Hindwing sooty black, somewhat semihyaline on basal half, two patches of yellow in costal area.

Length of forewing: ♂ 21 mm., ♀ 22 mm.

Breadth „ „ ♂ 8 mm., ♀ 10 mm.

*Hab.* Merida, Venezuela, April 1899 (Briceño).

#### 146. *Correbia rufescens* sp. nov.

♂. Pectus, upper- and underside of abdomen black strongly glossed with steel-blue; palpi and antennae black; head and thorax crimson rufous with central black line. —Forewing crimson rufous, outer two-thirds of wing below vein 1 broadly, basal third narrowly black, the broad outer part expanding greatly on termen and apex, so that outer two-fifths of wing are black; a black spot on costa and running half-way over cell four-fifths from base; in apical black portion of wing from costa to vein 4 are a number of lavender-blue indistinct bands or streaks. —Hindwing black, somewhat semihyaline grey towards base.

♀. Differs in the paler, more orange rufous forewings, with only apical fifth black and very narrow black inner margin, and larger size.

Length of forewing: ♂ 16 mm., ♀ 21 mm.

Breadth „ „ ♂ 6 mm., ♀ 9 mm.

*Hab.* Caracas, Venezuela.

147. *Correbia germana* sp. nov.

♂ ♀. Differs from *minima* Druce in its larger size, paler coloration, and much wider pale band and base of forewings.

Length of forewing: *germana*, 14 mm.; *minima*, 10 mm.

*Hab.* San Esteban, Venezuela, August 1909 (S. M. Klages) (type); ten miles below Mapiri, Bolivia, 2000 ft. (Maxwell Stuart); Cuzco, Peru, April 1901 (Garlepp); Yungas de Coroico, Bolivia, 1800 metres (Garlepp); Coronadolet, Ecuador (Flemming).

148. *Correbia felderi* sp. nov.

♂ ♀. Similar to *minima* Druce, but much darker, the band on forewing much narrower, and the rufous base almost obliterated.

*Hab.* Amazons (Felder coll.).

149. *Correbia assimilis* sp. nov.

♂ ♀. Similar to *notata* Butl.; but differs in the much more extended brownish buff base and the buff, not whitish, band of forewing.

*Hab.* La Vuelta, Caura River, May 1904 (type); La Union, Caura River, Venezuela, September 27—October 10, 1901; San Antonio do Javary, Upper Amazons, June 1907 (S. M. Klages); Onoribo, Surinam (W. Ellacombe); British Guiana; Amazons (Felder coll.).

150. *Correbia similis* sp. nov.

♂ ♀. Resembles *notata* Butl. and *assimilis*, but differs in its larger size and very wide rufous buff base and band on forewing.

*Hab.* San Esteban, Venezuela, August 1909 (type); Caparo, Trinidad, February—March 1906 (S. M. Klages); Caracas, Venezuela; La Vuelta, Caura River, May 1904 (S. M. Klages); Pozuzu, Huanuco, Peru, 800—1000 metres (W. Hoffmanns).

151. *Correbia steinbachi* sp. nov.

♂ ♀. Larger than *similis*, varying in ground colour of forewing from buff to pale orange rufous, black band of forewing and black apex indistinct and more or less obliterated.

Length of forewing: *similis*, 14 mm.

” ” ” *steinbachi*, 17 mm.

*Hab.* Buenavista, East Bolivia, 750 metres, August 1906—April 1907 (José Steinbach) (type); Fonte Boa, Amazons, August 1906.

152. *Correbia simonsi* sp. nov.

♂ ♀. Resembles *steinbachi*, but the black bar and apex are very distinct and sharply marked, and ground colour of forewing pale buff.

*Hab.* Salampioni, Bolivia, 800 metres, dry season, July 1901 (Simons) (type); La Oroya, Rio Inambari, Carabaya, Peru, 3100 ft., wet season, November—December 1905 (G. R. Ockenden).

153. *Correbia klagesi* sp. nov.

♂ ♀. Differs from *calopteridia* Butl. by its much longer and narrower wings and paler, more whitish base and band, and bluer ground of forewing.

*Hab.* Aroewarwa Creek, Maroewym Valley, Surinam, June 1905; Fonte Boa, Amazons, September 1906; Codijas, Upper Amazons, March—April 1906; La Vuelta, Canra River, June 1903 (S. M. Klages); Iquitos, Amazons (Maxwell Stuart).

154. *Correbia elegans meridionalis* subsp. nov.

♀. Differs from *elegans elegans* Druce by the black apex being margined with orange rufous and portions of the veins in it also of same colour.

*Hab.* Bulim, Ecuador, December 1900—February 1901 (Flemming and Miketta).

155. *Propyria ockendeni* sp. nov.

♂. Pectus whitish; antennae black; head and thorax wood-brown; abdomen black with subdorsal bands of orange-scarlet patches.—Forewing buffish wood-brown; apical fourth, a patch on discocellular, and the area along and below vein 1 purple-brown.—Hindwing orange-scarlet with black margins expanded on abdominal margin and at tornus.

Length of forewing: 15 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft., wet season, January 1902 (G. R. Ockenden).

156. *Propyria nigrirufa* sp. nov.

♂. Pectus sooty brown; antennae black; head and thorax sooty brown; abdomen sooty black.—Forewing wood-brown (in unique type carmine patch on underside of wing indistinctly shows through, but this is probably due to rubbing).—Hindwing, basal half sooty black, apical half carmine edged with black.

Length of forewing: 16 mm.

*Hab.* Santo Domingo, Carabaya, Peru, 6000 ft., wet season, November 1902 (G. R. Ockenden).

157. *Propyria albofasciata* sp. nov.

♀. Pectus sooty black; head and antennae black, collar orange; thorax black glossed with blue; abdomen black ringed with metallic blue, sublateral bands metallic blue.—Forewing sooty black with an antemedian slightly oblique white transverse band and a blue dot at base.—Hindwing sooty black, a median broad wedge-shaped white transverse band from costa to vein 2.

Length of forewing: 18.5 mm.

*Hab.* Chanchamayo, La Merced, August—September 1901 (Simons).

158. *Ctenucha togata schausi* subsp. nov.

♀. Differs from *togata togata* Druce by the scarlet, **not** black, patagia, by the scarlet, **not** deep crimson, of forewings, and by the scarlet extending farther beyond vein 1.

*Hab.* Espinal, Mexico, June 1896 (W. Schaus).

159. *Ctenucha garleppi* sp. nov.

♂ ♀. Differs from *cyaniris* Hamps. in the smaller extent of the blue colour, which is duller and darker, by the enormously wide orange band on forewing, and by the apical third of hindwing being orange edged with black.

Length of forewing : ♂ 19 mm., ♀ 16 mm.

*Hab.* Cuzco, Peru, March 1901 (Garlepp) (type) ; Chulmanito, Chaquichaca, Peru, 1800 metres, wet season, January 1901 (Simons).

160. *Ctenucha jonesi* sp. nov.

♀. Differs from *palmeira* Schaus in the white postmedian oblique white bar reaching from subcosta to termen above vein 2 not stopping short at vein 4.

*Hab.* Castro, Parana, March 1896 (E. D. Jones).

161. *Ctenucha andrei* sp. nov.

♀. Pectus and underside of abdomen brown-black.—Forewing black-brown, nervures pale fuscous, oblique white postmedian transverse bar from subcosta to termen at vein 2.—Hindwing blackish steel-blue, fringe white.

*Hab.* Ariapite Valley, Trinidad, June 1902.

162. *Ctenucha fosteri* sp. nov.

♂. Pectus and underside of abdomen sooty black ; head and collar orange, antennae black ; thorax and abdomen sooty brown-black ; basal half of tegulae and innerside of patagia orange.—Forewing dark wood-brown, terminal fringe white.—Hindwing sooty black, fringe white.

Length of forewing : 21 mm.

*Hab.* Sapucay, Paraguay, June 1902 (W. Foster).

163. *Ctenucha rubrovenata* sp. nov.

♂. Distinguished from *venosa* Walk. by the red collar being widely interrupted below, by the black, **not** scarlet, head, by the reddish orange or canary-yellow, **never** golden or white, nervures, the red, **not** black, vein 7, and the shorter, blunter wings.

♀ has canary nervures.

*Hab.* Yungas de Coroica, Bolivia, 1800 metres (type) ; Rio Songo to Rio Suapi, Bolivia, 1100 metres, March—June 1896 (Garlepp).

164. *Ctenucha rubrovenata tucumana* subsp. nov.

♂. Larger than *r. rubrovenata*, and the whole of the nervures sharply defined red or yellow.

*Hab.* Salta, N. Argentina, Tucuman, 900—1300 metres, February 1904 (J. Steinbach).

165. *Ctenucha reducta* sp. nov.

♂. Larger than *venosa*, and with much broader wings, the scarlet or yellow venuration is reduced to veins 1, 2, 3, 5, and the median ; forewing black glossed with blue, not black-brown.

♀ has the above five nervures white.



Width of forewing : *venosa*, 7 mm.  
" " " *reducta*, 10 "  
" " hindwing : *venosa*, 8 "  
" " " *reducta*, 11 "

*Hab.* Oconeque—Agnalani, Carabaya, Peru, 6000—9000 ft., March 1995; Limbani, Carabaya, 9500—10,000 ft., November 1907 and May 1904; Agnalani, S.E. Peru, 10,000 ft. (G. R. Ockenden); Carobas, Peru, 2500 ft., September 1899 (Simons).

166. **Ectaptera drucei** sp. nov.

♂. Pectus dark brown; antennae black, apical fifth of shaft white; head and thorax dark brown, collar crimson; abdomen steel-blue.—Forewing dark brown.—Hindwing basal two-thirds buff, outer third dark brown.

Length of forewing : 19 mm.

*Hab.* Bogotá.

167. **Ectaptera roseipeunis** sp. nov.

♂. Pectus, head, and thorax dark brown; collar crimson; antennae black, apical fifth of shaft white; abdomen steel-blue.—Forewing dark brown powdered all over with minute buff scales.—Hindwing dark brown powdered with buff scales; in, below, and beyond cell rose-pink.

Length of forewing : 21 mm.

*Hab.* Bogotá Town.

168. **Ectaptera miniata** sp. nov.

♂. Pectus and underside of abdomen very hairy olive-buff; head, thorax, and abdomen dark olive-brown; antennae black.—Forewing olive chocolate-brown, costa deep crimson, a small semihyaline white spot in cell, and a similar one each side of vein 3.—Hindwing cinnabar-red; nervures, base of wing, discocellular patch, and broad margin black.

Length of forewing : 19 mm.

*Hab.* Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

169. **Phileros ockendeni** sp. nov.

♀. Pectus metallic blue-green; antennae black; head and thorax metallic blue-green, the latter mixed with black; abdomen black with narrow metallic blue-green rings.—Forewing chocolate-brown, a basal metallic blue-green spot and a subbasal crimson spot, a paler crimson discocellular patch much obscured with brown scales.—Hindwing black-brown with a very large subapical crimson patch between costa and vein 2.

Length of forewing : 16 mm.

*Hab.* Rio Inambari to Limbani, Carabaya, S.E. Peru, March 1904 (G. R. Ockenden).

170. **Phileros rubriceps affinis** subsp. nov.

♂. Similar to *rubriceps opava*, but forewing fuscous grey with blackish nervures and hindwings without blue gloss.

*Hab.* Cuzco, Peru, April 1901 (Garlepp).

171. *Phileros rubriceps griseatus* subsp. nov.

♂ ♀. Differs from *r. opaca*, *r. affinis*, and *r. rubriceps* in being uniform monse-grey all over except the crimson palpi, throat, and vertex; there is scarcely any blue gloss on hindwings in ♂ and none in ♀.

*Hab.* Mechisera, Merida, Venezuela, 3000 metres (Briceño).

172. *Phileros rubriceps opaca* Boisd.

Differs from *rubriceps rubriceps* Walk. by the much darker forewings, by the hindwings being more strongly glossed with blue, and in the orange-yellow, **not** crimson, palpi, throat, and vertex.

*Hab.* Argentina, Paraguay, and South Brazil.

*Phileros rubriceps rubriceps* Walk. is confined to Central America.

173. *Hyaleucera minuta* sp. nov.

♂. Pectus and underside of abdomen white; head, antennae, thorax, and abdomen sooty black, collar crimson.—Forewing, discal third hyaline white, nervures, large discocellular patch, and rest of wing sooty black.—Hindwing hyaline white, nervures and broad margins deep black.

Length of forewing: 14 mm.

*Hab.* Yungas de Coroica, Bolivia, 1800 metres (Garlepp).

174. *Hyaleucera ockendeni* sp. nov.

♂ ♀. Pectus black-brown; head and antennae black, collar crimson; thorax sooty black-brown, with median line and central band on patagia black; abdomen black with steel-blue gloss.—Forewing, basal four-fifths dark monse-grey, nervures and some intraneural streaks black; outer fifth olive-yellow, terminal edge black.—Hindwing hyaline whitish grey, outer margin broadly ill-defined sooty black.

Length of forewing: ♂ 19 mm., ♀ 21 mm.

*Hab.* La Oroya, Rio Inambari, S.E. Peru, 3100 ft., September 1904 and March 1905 (G. R. Ockenden); Santo Domingo, Carabaya, Peru, 6500 ft., wet season, December 1902; Tinguri, Carabaya, 3400 ft., dry season, August 1904; Oconeque, Carabaya, 7000 ft., dry season, July 1904 (G. R. Ockenden).

175. *Hyaleucera uniformis* sp. nov.

♀. Uniform sooty brown-grey, nervures of forewing, hindwing, and abdomen darker, more black; basal half of hindwings paler and slightly semihyaline.

Length of forewing: 23 mm.

*Hab.* Sta Catharina, S. Brazil.

---

LIST OF A COLLECTION OF BIRDS MADE BY MR. ALBERT  
MEEK ON THE KUMUSI RIVER, NORTH-EASTERN  
BRITISH NEW GUINEA.

BY THE HON. WALTER ROTHSCHILD AND ERNST HARTERT.

THE Kumusi River lies in the northernmost part of north-eastern British New Guinea, its mouth being not more than about 60 kilometres south of the frontier of German New Guinea. Mr. Meek went up a considerable distance of the river, but no great heights were reached. The collection was made between March and September of 1907. Mr. Arthur Goodson has been very helpful in compiling this list.

1. *Synoicus plumbeus* Salvad.

♂; 5. vii. 1907. "Iris dark red; feet dirty yellow; bill black, lower slate." (No. 3283.)

Cf. *Nov. Zool.* xiv. p. 447 (1907), where the various plumages in which we had received this species from the Upper Aroa and Angabunga Rivers are described. Probably, however, none of the birds described there were really adult males, because we have now received from the Kumusi River a male, shot on July 5th, 1907, which agrees better still with Salvadori's original description of *Synoicus plumbeus*.\* The back is slaty black with plumbeous grey shaftlines and tips to the feathers; the under surface plumbeous grey, slightly paler on the throat. Wing about 90 mm. (rather worn). "Iris dark red, feet dirty yellow, bill black and slate."

2. *Excalfactoria chinensis lepida* Hartl.

*Excalfactoria lepida* Hartlaub, *Sitzungsber. Ver. Naturw. Unterh. Hamburg*, vii. p. 3 (1879—Duke of York Island).

♂ ad.; Kumusi River, September 3, 1907. (No. 3455.)

This single specimen agrees best with our single male from New Hanover, but the belly and under tail-coverts are darker chestnut.

3. *Talegallus jobiensis jobiensis* Meyer.

Cf. *Nov. Zool.* 1901. p. 139.

1 ♀ ad., 1 ♀ imm.; Kumusi River, September 3, 1907. (Nos. 3452, 3454.)

"Iris dark reddish brown, feet red, bill reddish brown." A male collected at Avera, Aroa River, March 3rd, 1903, has the iris marked as dull burnt yellow, feet bright red, bill light amber.

Two eggs were found in September 1907. They are dull, glossless, brownish brick-red, one more red, the other more chocolate. They measure 94 × 61 and 100.5 × 64 mm.

\* The original diagnosis (*Ann. Mus. Civ. Genova* (2) xiv. p. 152, 1894), taken from a skin from "Vakena," reads as follows: "Cinereus, gula vix pallidior; vertice, occipite, collo postico, dorso, uropygio, supracondalibus, lateribusque paullum fusco variis; alis sordide griseis; remigibus tertiaris, apicem versus nigro variis, vel maculatis. Al. 90 mm."

4. *Megapodius duperreyi duperreyi* Less. & Garn.

Cf. *Nov. Zool.* 1901. p. 135.

2 ♂♂, 2 ♀♀; Kumusi River, March 22, May 26, 31, 1907. (Nos. 2990, 3030, 3071, 3072.)

"Iris brown, feet reddish yellow, merging to black, bill brown."

5. *Ptilinopus superbus* (Temm. & Knip).

Cf. *Nov. Zool.* 1901. p. 102.

3 ♂♂ ad., 1 ♂ imm., 1 ♀ ad., 1 ♀ imm.: Kumusi River, May, June, August 1907. (Nos. 2898, 3059, 3060, 3096, 3439, 3444.)

"Iris lemon yellow, feet purplish red, bill slate."

No. 3060 is an immature female, without the dark blue patch on the occiput.

6. *Ptilinopus pulchellus* (Temm.).

Cf. *Nov. Zool.* 1901. p. 102.

3 ♂♂, 2 ♀♀ ad.; Kumusi River, May, June 1907. (Nos. 2943, 2979, 3019, 3126, 3169).

"Iris yellow, feet dark red, bill dull yellow."

7. *Ptilinopus coronulatus huonensis* A. B. Meyer.

Cf. *Nov. Zool.* 1901. p. 103.

3 ♂♂, 1 ♀ ad.; Kumusi River, May, June 1907. (Nos. 2887, 2902, 3009, 3262.)

"Iris reddish yellow, feet purplish red, bill green, yellowish at tip."

The most striking character to distinguish this species from typical *coronulatus* are the rich orange under tail-coverts.

8. *Ptilinopus iozonus iozonus* (Gray).

Cf. *Nov. Zool.* 1901. p. 104.

3 ♂♂ ad.; Kumusi River, May, June 1907. (Nos. 2960, 3215, 3222.)

9. *Ptilinopus gestroi gestroi* D'Alb. & Salvad.

Cf. *Nov. Zool.* 1901. p. 105.

2 ♀♀ nearly ad. and imm.; Kumusi River, May, June 1907. (Nos. 3011, 3139.)

"Iris bright red, feet dark heliotrope, bill yellow."

The older female has a grey forehead, but it is apparently not fully adult. There is no difference between the sexes when fully adult.

10. *Megaloprepia magnifica poliura* Salvad.

Cf. *Nov. Zool.* 1901. p. 111.

3 ♂♂, 1 ♀ ad., 1 ♀ imm.; Kumusi River, May 1907. (Nos. 2909, 2916, 2927, 2924, 3024.)

"Iris dark red, feet yellowish green, bill yellow, base greenish."

1 ♀. A dwarf albinistic variety, Giriwu River, September 14, 1907. (No. 1.)

It had: "Iris red chocolate, feet green slate, bill green horn." Its colour is above orange yellow with patches of green, clearer yellow on the nape, forehead greyish washed with green over the eyes. Underside bright blood-red, chin grey, lower throat bright red, the sides yellow. Thighs and under tail-coverts orange yellow, varied with white. Wings greyish white margined with yellow on outer webs. First primary on each side almost normal colour. Tail above greyish white washed with yellow at the tip. Underneath dark greyish brown, with more or less greyish white in the middle.

11. *Carpophaga rufigaster* (Quoy et Gaim.).

Cf. *Nov. Zool.* 1901. p. 113.

2 ♀ ♀; Kumusi River, May 30, August 31, 1907. (Nos. 3069, 3449.)  
"Iris blood-red, feet bright red, bill black."

12. *Carpophaga zoeae* (Less.).

Cf. *Nov. Zool.* 1901. p. 112.

1 ♂; Kumusi River, June 10, 1907. (No. 3149.)  
"Iris silvery grey, feet dark purplish red, bill black."

13. *Columba albigularis* (Bp.).

Cf. *Nov. Zool.* 1901. p. 118.

1 ♂ imm., 2 ♀ ♀ ad.; Kumusi River, August 20, 31, September 1, 1907. (Nos. 3423, 3448, 3450.)  
"Iris yellow, feet dull red, bill light horn with red base."

14. *Macropygia amboinensis cinereiceps* Tristr.

Cf. *Nov. Zool.* 1901. p. 125.

1 ♂, 2 ♀ ♀ ad., 1 ♀ imm.; Kumusi River, May, June 1907. (Nos. 2888, 3010, 3017, 3080.)  
"Iris slaty blue, with red outer circle, feet pale red, bill brown."

15. *Macropygia nigrirostris* Salvad.

Cf. *Nov. Zool.* 1901. p. 121.

1 ♂, 2 ♀ ♀ ad.; Kumusi River, May 1907. (Nos. 2947, 2957, 2956.)  
"Iris bright red, feet bright red, bill black."

16. *Reinwardtoena reinwardtsi griseotincta* Hart.

Cf. *Nov. Zool.* 1901. p. 126.

♂ ad.; Kumusi River, August 11, 1907. (No. 3403.)  
"Iris dark red, feet bright red, bill horn-colour."

17. *Chalcophaps stephani* Reichenbach.

Cf. *Nov. Zool.* 1901. p. 129.

2 ♂ ♂, 4 ♀ ♀ ad.; Kumusi River, May, June, July 1907. (Nos. 2945, 3028, 3031, 3157, 3174, 3318.)  
"Iris brown, feet dark purplish red, bill red."

18. **Zonerodius heliosylus** (Less.).

*Ardea heliosyla* Lesson, *Voy. Coquille, Zool.* i. p. 722 (1826-28—Dorey, New Guinea), Atlas pl. xlv.

♀ ad.; Kumusi River, June 6, 1907. (No. 3122.)

“ Iris yellow, feet pale yellow, front of torsi blackish, bill black, under mandible light horn.”

19. **Haliastur sphenurus** (Vieill.).

*Milvus sphenurus* Vieill., *Nouv. Dict. d'Hist. Nat.* xx. p. 564 (1818 Aust.).

♂ in worn changing plumage; Kumusi River, August 11, 1907. (No. 3402.)

20. **Baza reinwardtii** (Müll. & Schlegl.).

♂ ♀ ad.; Kumusi River, June, August 1907. (Nos. 3107, 3411.)

21. **Machaerhamphus alcinus** Westerm.

*Machaerhamphus alcinus* Westerm., *Bijdr. tot de Dierk.* i. part 2, p. 29, pl. 12 (1848—Malacca).

♂ ad.; Kumusi River, July 14, 1907. (No. 3312.)

“ Iris golden yellow; bill black, base slate; feet ashy blue.”

This specimen only differs from two specimens from North Borneo in having more white on the feathers of the lower abdomen, these feathers in the two other specimens having only the basal half or less white.

22. **Erythrotriorchis doriae** (Salvad.).

*Megatriorchis doriae* Salvad. et D'Alb., *Ann. Mus. Civ. Gen.* vii. p. 805 (1875) (Hall Bay, S.E. New Guinea).

*Erythrotriorchis doriae*, Salvad., *Ornith. del. Pap.* i. p. 16 (1889).

*Erythrotriorchis doriae*, Sharpe, in *Gould's Birds of New Guinea* i. pl. ii.

♂ imm.; Kumusi River, August 5, 1907. (No. 3375.)

“ Iris brown, feet dull pale yellow, bill black.”

23. **Astur etorques** (Salvad.).

*Uroszipias etorques* Salvad., *Ann. Mus. Civ. Gen.* vii. p. 901. sp. 2 (1875 Nova Guinea et Salwatti).

*Astur etorques* Hart., *Nov. Zool.* iii. p. 246 (1896).

2 ♀ ♀; Kumusi River, May, August 1907. (Nos. 3059, 3419.)

24. ? **Astur cruentus** Gould.

*Astur cruentus* Gould, *P.Z.S.* 1842, p. 113 (W. Australia).

♂ ad.; Kumusi River, July 6, 1907. (No. 3293.)

“ Iris golden yellow, feet lemon yellow, bill black, tip slate.”

Besides this specimen we have another male from Nicura in British New Guinea, which is similar. Unfortunately we have no Australian specimens for comparison, but Gould's figure shows a bird with a more whitish underside and wider bars. *Astur cruentus*? may be only a subspecies of *Astur torquatus*.

25. **Ninox theomacha** (Lp.).

Cf. *Nov. Zool.* 1907, p. 443

♀ ad.; Kumusi River, June 17, 1907. (No. 3213.)

26. **Cuculus optatus** Gould.

*Cuculus optatus* Gould, *Proc. Soc. Zool. Lond.*, part xiii, 1845, p. 18 (1845—Port Essington in Australia). See also Hartert, *Vög. ind. Fauna*, ii, p. 949.

♀ ad.; Kumusi River, September 4, 1907. (No. 3457.)  
“ Iris yellow, feet yellow, bill black.”

27. **Cacomantis assimilis assimilis** (Gray).

Cf. *Nor. Zool.* 1907, p. 434.

2 ♂♂ ad., 3 imm.; Kumusi River, May, June 1907. (Nos. 2971, 3023, 3090, 3099, 3201.)

“ Iris ad. brown, feet smoky yellow, bill black.”  
One adult male and an immature female have the iris marked as yellow.

28. **Chrysococcyx meyeri** Salvad.

Cf. *Nor. Zool.* 1907, p. 437.

♀ ad.; Kumusi River, August 9, 1907. (No. 3392.)  
“ Iris brown, feet slate, bill black.”

29. **Chrysococcyx poecilurus** Gray.

Cf. *Nor. Zool.* 1907, p. 438.

4 ♂♀ ad.; Kumusi River, May, June, July 1907. (Nos. 2966, 2976, 3137, 3294.)

“ Iris hazel, dark red, feet slate, bill black.”

30. **Chrysococcyx plagosus** (Lath.).

Cf. *Nor. Zool.* 1907, p. 439.

♂♀; Kumusi River, June, July 1907. (Nos. 3187, 3358.)  
“ Iris light brown, feet slate, bill black.”

It is as yet doubtful if any subspecies of *C. plagosus* are separable.

31. **Calliechthrus leucolophus** (Müll.).

Cf. *Nor. Zool.* 1907, p. 439.

♂; Kumusi River, May 23, 1907. (No. 2991.)  
“ Iris brown, feet and bill black.”

32. **Eudynamis orientalis cyanocephalus** (Lath.).

Cf. *Nor. Zool.* 1907, p. 440.

♂♀ ad.; Kumusi River, May, June 1907. (Nos. 2897, 3254.)  
“ Iris red, feet slate, bill pale slate.”

33. **Microdynamis parva** Salvad.

Cf. *Nor. Zool.* 1907, p. 440.

♀ ad.; Kumusi River, May 26, 1907. (No. 3025.)  
“ Iris deep red, feet slate, bill black.”

34. ? **Rhamphomantis megarhynchus** (Gray).

*Cuculus megarhynchus* Gray, *P.Z.S.* 1858, pp. 184, 195 (Aru Islands).

♀; Kumusi River, May 17, 1907. (No. 2963.)

"Iris brown, feet slaty blue, bill black."

This specimen differs very much from the type of *megarhynchus* from the Aru Islands. It is cinnamon above, tinged with grey on the rump, and faintly barred with blackish on the upper wing- and tail-coverts; tail and wings cinnamon-brown, outer rectrices with black bars, underside cinnamon, paler on throat and abdomen, and faintly barred with ashy grey. The bird is evidently immature, and might perhaps be the young of *Rh. megarhynchus*, with which it agrees in shape and size.

35. **Scythrops novaehollandiae** Lath.

*Cf. Nov. Zool.* 1907, p. 441.

♀ ad.; Kumusi River, August 8, 1907. (No. 3388.)

"Iris dark red, feet slate, bill light horn."

36. **Centropus menbeki menbeki** Less. & Garn.

*Cf. Nov. Zool.* 1907, p. 441.

♀ ad.; Kumusi River, May 17, 1907. (No. 2959.)

"Iris dark red, feet black, bill black at base, rest light horn."

37. **Centropus nigricans** (Salvad.).

*Cf. Nov. Zool.* 1907, p. 442.

2 ♀♀ ad. and imm.: Kumusi River, May 1907. (Nos. 3037, 3046.)

"Iris dark red, feet slate, bill black."

38. **Ceyx solitaria** Temm.

*Cf. Nov. Zool.* 1901, p. 145.

1 ♂, 4 ♂♂ ad.: Kumusi River, May, June, July 1907. (Nos. 3054, 3232, 3317, 3361, 3362.)

"Iris brown, feet orange yellow, bill black."

39. **Syma torotoro meeki** Rothsch. & Hart.

*Cf. Nov. Zool.* 1901, p. 147.

5 ♂♂, 1 ♀ ad.; Kumusi River, May, June, August, September 1907. (Nos. 2924, 3233, 3374, 3415, 3422, 3451.)

"Iris brown, feet chrome yellow, bill chrome yellow."

No. 3415 has the tip of the culmen black for about 20 mm. No. 3374, a female, is albinistic, having the throat and abdomen white, washed with buff. A small white patch on each side of the nape, and some white feathers in the wings.

These specimens agree well with the series of *S. torotoro meeki* in the Tring Museum.

40. **Halcyon macleayi** Jard. & Selby.

*Cf. Nov. Zool.* 1901, p. 153.

2 ♂♂, 4 ♀♀; Kumusi River, May, June, July 1907. (Nos. 3063, 3082, 3120, 3124, 3209, 3279.)

"Iris brown, feet black, bill black under mandible, white at base."



41. *Halcyon sancta* Vig. & Horsf.

2 ♂♂, 2 ♀♀; Kumusi River, May, June 1907. (Nos. 3044, 3068, 3223, 3244.)  
“ Iris brown, feet black, bill black.”

42. *Melidora macrorhina macrorhina* (Less.).

Cf. *Nov. Zool.* 1901. p. 150.

2 ♂♂, 2 ♀♀ ad.; Kumusi River, May, June 1907. (Nos. 2896, 2949, 3141, 3179, 3248.)

“ Iris dark brown, feet greenish slate; bill, upper mandible black, lower light horn-colour.”

According to the sexed specimens in the Tring Museum the males have the feathers of the head edged with blue, the females with green.

43. *Sauromarptis gaudichaud* (Quoy et Gaim.).

Cf. *Nov. Zool.* 1901. p. 151.

5 ♂♂ ad.; Kumusi River, May, June 1907. (Nos. 2925, 3007, 3018, 3118, 3181.)

“ Iris dark brown, feet greenish slate, bill light horn.”

44. *Tanysiptera danaë* Sharpe.

Cf. *Nov. Zool.* 1901. p. 156.

2 ♂♂, 3 ♀♀ ad., 1 ♂ imm.; Kumusi River, May 1907. (Nos. 2912, 2913, 2931, 2993, 3049, 3061.)

“ Iris brown, feet yellowish red, bill dark red.”

45. *Tanysiptera dea galatea* Gray.

Cf. *Nov. Zool.* 1901. p. 160.

1 ♂, 2 ♀♀ ad.; Kumusi River, May 1907. (Nos. 2929, 2954, 3008.)

“ Iris dark brown, feet greenish slate, bill red.”

46. *Merops ornatus* Lath.

Cf. *Nov. Zool.* 1903. p. 196.

3 ♂♂, 1 ♀ ad., 1 ♀ imm.; Kumusi River, May, June 1907. (Nos. 3020, 3048, 3080, 3100, 3127.)

“ Iris dark red, feet blackish, bill black.”

47. *Eurystomus crassirostris crassirostris* Sel.

Cf. *Nov. Zool.* 1903. p. 197.

6 ♂♀ ad.; Kumusi River, May, June, July, August 1907. (Nos. 3003, 3249, 3307, 3325, 3387, 3401.)

“ Iris brown, feet red, bill red, tip black.”

48. *Eos fuscata* Blyth.

Cf. *Nov. Zool.* 1901. p. 65.

3 ♂♂, 3 ♀♀; Kumusi River, May 1907. (Nos. 2948, 2996, 3047, 3056, 3057, 3058.)

“ Iris crimson, feet black, bill yellowish red.”

49. *Lorins hypoenochrous devittatus* Hart.

Cf. *Nor. Zool.* 1901. p. 66.

2 ♂♂, 1 ♀ ad.; Kumusi River, May 1907. (Nos. 2939, 2940, 3055.)  
“ Iris yellowish red, feet black, bill bright yellowish red.”

50. *Lorins lory erythrothorax* Salvad.

Cf. *Nor. Zool.* 1901. p. 66.

2 ♂♂, 1 ♀; Kumusi River, June 1907. (Nos. 3088, 3094, 3095.)  
“ Iris dull red, feet black, bill deep yellowish red.”

51. *Trichoglossus haematodus massena* Bp.

Cf. *Nor. Zool.* 1901. p. 70.

1 ♂ in moult; Kumusi River, May 19, 1907. (No. 2970.)  
“ Iris red, feet slate, bill red.”

52. *Cyclopsitta cervicalis* Salvad. & D'Alb.

Cf. *Nor. Zool.* 1901. p. 73.

6 ♂♂; Kumusi River, June, August 1907. (Nos. 3259, 3267—3269, 3416, 3417.)  
“ Iris dark red, feet ashy blue, bill black.”

53. *Cyclopsitta diophthalmus diophthalmus* (Hombr. & Jacq.).

Cf. *Nor. Zool.* 1901. p. 73.

1 ♀; Kumusi River, June 27, 1907. (No. 3265.)

54. *Cyclopsitta nigrifrons amabilis* Reichenow.

*Cyclopsittacus amabilis* Reichenow, *Journ. für Ornith.* p. 427. 1891; *Bericht.* vii. p. 6.

*Cyclopsittacus maciluraithi* Rothsch., *Bull. B.O.C.* vii. p. xxi (1897).

Cf. *Nor. Zool.* viii. p. 75 (1901).

4 ♂♂, 4 ♀♀ ad.; Kumusi River, May, June 1907. (Nos. 2977, 2978, 3125, 3144, 3145, 3152, 3220, 3221.)

After comparing the fine series now on hand, there can be no longer any doubt that *maciluraithi* is not separable from *amabilis*. When it was first described, we did not know that this plumage (pale lemon-yellow breast and cheeks) represented the other sex of the birds with orange breasts and bluish slate patch on the cheeks, called *amabilis*; but when writing in *Nor. Zool.* 1901, p. 75, we recognised the fact, though we still thought that *maciluraithi* was separable by a shorter wing—which, however, is certainly not the case. We accepted Prof. Reichenow's theory, that the lemon-breasted birds were the females of the orange-breasted ones. The series now, however, tells us just the opposite; all the former being sexed as males, and all the latter as females. Even a single specimen collected by Dr. Nyman with an orange breast, etc., is distinctly marked “female.” It is hardly possible to believe that there is an error in all this series, and it must therefore be suggested that the lemon-breasted birds are the males of the orange-breasted ones. That they cannot be another species appears to be equally

certain, as we have two specimens marked as young females with lemon breasts varied with orange. Moreover, there are two birds, marked as male and female, the former with a lemon breast, the latter with an orange one, which are semi-albinos, the back, tail, and secondaries being bright canary yellow, spotted with green, and the primaries and inner secondaries creamy white. They are probably brother and sister.

55. *Cacatua triton triton* (Temm.).

Cf. *Nov. Zool.* 1901. p. 78.

♂ ad.; Kumusi River, May 30, 1907. (No. 3067.)

The wing of this specimen measures 308 mm.

56. *Nasiterna pusio salvadorii* Rothsch. & Hart.

*Nasiterna salvadorii* Rothsch. & Hart., *Nov. Zool.* viii. p. 81 (1901) (Ambernoh River).

6 ♂ ♀ ad.; Kumusi River, June, July, August 1907. (Nos. 3156, 3353, 3381, 3442, 3443, 3453.)

“ Iris brown, feet ashy blue, bill slate, brownish, ashy blue.”

The six fine skins collected by Meek on the Kumusi River confirm the differences stated in *Nov. Zool.* 1901. The new locality is very interesting, as we only knew this form from Humboldt Bay and the Ambernoh River, as well as from Takar.

57. *Geoffroyus personatus aruensis* (Gray).

Cf. *Nov. Zool.* 1901. p. 84.

3 ♂ ♂, 2 ♀ ♀; Kumusi River, May, June 1907. (Nos. 2983, 3038, 3184, 3205, 3242.)

“ Iris creamy white, feet ashy blue or greenish slate; bill, upper mandible red, lower black.”

58. *Eclectus pectoralis pectoralis* (P. L. S. Müll.).

Cf. *Nov. Zool.* 1901. p. 81.

2 ♂ ♂, 1 ♀ ad.; Kumusi River, May, June 1907. (Nos. 2921, 3121, 3168.)

“ Iris in male red, in female silvery white; feet black; bill in the male, upper mandible yellowish red, lower black, in the female entirely black.”

59. *Loriculus aurantiifrons meeki* Hart.

*Loriculus aurantiifrons meeki* Hart., *Nov. Zool.* ii. p. 62 (1895).

Cf. *Nov. Zool.* 1901. p. 88.

2 ♂ ♂, 3 ♀ ♀ ad.; Kumusi River, June, July, August, September 1907. (Nos. 3194, 3331, 3332, 3432, 3458.)

“ Iris dull white, feet dull dirty yellow, bill black. The iris of the females is brown.”

The female differs from the male in wanting the yellow forehead, and in having the forehead, cheeks, and throat bluish green instead of grass green; the bases of the feathers of the forehead are yellowish brown, while they are stated to be red in the females of *L. aurantiifrons aurantiifrons*, of which, however, we possess only males.

60. *Podargus ocellatus ocellatus* Quoy & Gaim.

Cf. *Nor. Zool.* 1903. p. 139.

2 ♂♂: Kumusi River, July 26, 1907. (Nos. 3351, 3352.)

"Iris brown, feet light horn, bill light smoky brown."

61. *Aegotheles bennetti* Salvad. et d'All.

Cf. *Nor. Zool.* 1903. p. 200.

♀ ad.; Kumusi River, May 14, 1907. (No. 2942.)

"Iris dark brown, feet light brown colour, bill black."

62. *Caprimulgus macrurus macrurus* Horsf.

Cf. *Nor. Zool.* 1903. p. 202.

4 ♂♂, 1 ♀ ad.; Kumusi River, April, May, June, July 1907. (Nos. 2884, 2928, 3214, 3326, 3340.)

"Iris brown, feet smoky horn, bill black."

63. *Macropteryx mystaceus mystaceus* (Less.).

Cf. *Nor. Zool.* 1903. p. 203.

2 ♂♂, 1 ♀ ad.; Kumusi River, June, July 1907. (Nos. 3195, 3197, 3328.)

"Iris brown, feet black, bill black."

64. *Pitta atricapilla atricapilla* (Quoy et Gaim.).

Cf. *Nor. Zool.* 1901. p. 62.

4 ♂♂, 1 ♀ ad. and imm.; Kumusi River, June, July, August, 1907. (Nos. 3231, 3234, 3278, 3365, 3376, 3407.)

"Iris brown, feet smoky horn, bill black."

65. *Pitta mackloti loriae* Salvad.

Cf. *Nor. Zool.* 1901. p. 63.

3 ♂♂, 1 ♀ ad. and imm.; Kumusi River, June, July, August 1907. (Nos. 3147, 3354, 3356, 3424, 3426.)

"Iris brown, feet slate, bill black."

These birds are quite typical *loriae*, a form which seems to be found only in the easternmost parts, and near the north coast of British New Guinea: East Cape, Milne Bay, Chados Bay, Mullens Harbour, Kumusi River.

When compiling the list of the birds collected by Mr. Meek on the Aroa River, we omitted to mention five specimens of a *Pitta* closely allied to *P. mackloti mackloti*. These five birds, however, differ from *P. m. mackloti* as follows: The whole back is strongly tinged with blue, in one specimen almost entirely blue without green, and the rufous patch on the hindneck is different, rather less bright, and with very little red in it, one might say of a faded russet orange-rufous. The crown is also slightly paler, and shows a varying amount of blue about the centre. Wings 107—112 mm. This form is obviously new, and we call it

**Pitta mackloti oblita** subsp. nov.

This new form resembles *Pitta mackloti kuehni*, but the latter has the blue jugular patch more extended laterally, a much more reddish and brighter hindneck, and is smaller (wings 100—105 mm., mostly about 103 mm.). Type: ♂ A279, Avera, 23. ii. 1903, in the Tring Museum.

In *Orn. Monatsber.* 1912. pp. 102, 127, Dr. Finsch has described as a new species a "*Pitta Habenichti*," apparently from a single specimen obtained near Potsdamhafen in Kaiser Wilhelmshafen. As far as we can gather from the descriptions this supposed new species differs essentially from *P. mackloti* only in the bright fiery red of the hindneck. The amount of blue on the crown and the width of the black pectoral line are so variable in this species, that these characters are irrelevant in one single specimen. We consider it very risky, not to say rash, to describe as a new species a *Pitta* of which only one skin is at hand; and we have seen such variation in the colour of the hindneck in *P. mackloti mackloti* that we fear that the supposed *Pitta habenichti* is only an aberration of *P. m. mackloti*. Dr. Finsch has not explained whether true *mackloti* was found in the same place, and whether he had a good series of the latter for comparison, or only a few examples.

66. **Petrochelidon nigricans** (Vieillot).

*Hirundo nigricans* Vieillot, *Nouv. Dict. d'Hist. Nat.* xiv. p. 532 (1817: New Holland).

6 ♂♂; Kumusi River, June—July 1907 (Nos. 3192, 3193, 3229, 3230, 3286, 3288.)

67. **Megalurus macrurus macrurus** Salvad.

Cf. *Nor. Zool.* 1903. p. 225.

3 ♂♂, 2 ♀♀ ad.; Kumusi River, June—July 1907. (Nos. 3163, 3281, 3282, 3300, 3347.)

"Iris light brown, feet light horn, bill brown horn."

68. **Cisticola exilis** Vig. & Horsf.

Cf. *Nor. Zool.* 1903. p. 225.

6 ♂♂ ad.; Kumusi River, June, July, September 1907. (Nos. 3188, 3274, 3284, 3390, 3302, 3456.)

69. **Eupetes geislerorum** Mey.

Cf. *Nor. Zool.* 1903. p. 230.

3 ♂♂, 2 ♀♀ ad.; Kumusi River, June, July, August 1907. (Nos. 3184, 3276, 3295, 3321, 3406.)

"Iris brown, bill and feet black."

We have also received a pair from Cape Nelson.

There is some slight variation in the series before us. In two male specimens the head is of a deeper olive-brown, or rather less olive, more brownish. One female is almost uniform chestnut above, the others having the head and nape more olive-brown, while the lower back and rump are chestnut. A young male from Collingwood Bay (A. S. Meek collection, No. 2531), and another from Cape Nelson (A. S. Meek, No. 3460), show that the young males are coloured like the adult females; these specimens are in moult, one showing some of the blue feathers appearing on the back, the other some remains of the chestnut and brown plumage.

70. *Microeca flavovirescens* Gray.

Cf. *Nov. Zool.* 1907. p. 471.

♀ (not quite adult); Kumusi River, June 15, 1907. (No. 3198.)

71. *Gerygone wahnesi* (Mey.).

Cf. *Nov. Zool.* 1903. p. 472.

2 ♂♂ ad.; Kumusi River, July, August 1907. (Nos. 3357, 3430.)

“ Iris red, feet slate, bill black.”

72. *Gerygone chrysogaster* Gray.

Cf. *Nov. Zool.* 1903. p. 472.

2 ♂♂, 1 ♀ ad.; Kumusi River, May, June, August 1907. (Nos. 2980, 3164, 3435.)

“ Iris dull red, feet light horn, bill black.”

73. *Aethomyias spilodera guttata* Sharpe.

Cf. *Nov. Zool.* 1903. p. 475.

6 ♂♀; Kumusi River, June, August 1907. (Nos. 3177, 3246, 3379, 3389, 3437, 3438.)

74. *Todopsis wallacii* Gray.

Cf. *Nov. Zool.* 1903. p. 477.

1 ♂, 2 ♀♀ ad.; Kumusi River, July, August 1901. (Nos. 3327, 3428, 3429.)

75. *Malurus alboscapulatus naimii* Salvad. & d'Alb.

Cf. *Nov. Zool.* 1903. p. 478; 1907. p. 461.

4 ♂♂, 2 ♀♀; Kumusi River, June, July, August 1907. (Nos. 3190, 3208, 3225, 3235, 3245, 3399.)

(*Malurus alboscapularis naimii*, in *Nov. Zool.* 1903. p. 479, should read *Malurus alboscapulatus naimii*.)

In size these birds agree well with those from S.E. New Guinea.

76. *Peltops blainvillii* (Less. & Garu.).

Cf. *Nov. Zool.* 1903. p. 454.

6 ♂♀; Kumusi River, May, June, August 1907. (Nos. 2936, 2952, 3035, 3136, 3410, 3418.)

“ Iris dark red, feet and bill black.”

Specimen No. 2952, evidently an immature bird, has the wing-coverts tipped with white. We have a similar specimen from Milne Bay, which also has some white feathers in the middle of the throat, and which is undoubtedly juvenile.

77. *Monarcha melanopsis* (Vieill.).

Cf. *Nov. Zool.* 1903. p. 455.

4 ♂♂, 1 ♀ ad.; Kumusi River, May, June, August 1907. (Nos. 2908, 2985, 3129, 3366, 3436.)

“ Iris brown, feet slate, bill chalky blue.”

78. *Monarcha menadensis* (Quoy & Gaim.).

Cf. *Nor. Zool.* 1903. p. 458.

5 ♂ ♀ ad.; Kumusi River, May, June 1907. (Nos. 2893, 3146, 3170, 3176, 3264.)

“ Iris brown, feet slaty blue, bill slaty blue.”

79. *Monarcha guttula* (Garn.).

Cf. *Nor. Zool.* 1903. p. 456; 1907. p. 462.

♂ imm., ♀ ♀ ad. and imm.; Kumusi River, May, June 1907. (Nos. 2917, 3131, 3182.)

“ Iris brown, feet slate, bill slate.”

*Monarcha heterurus* Salvad. (*Ann. Mus. Genov.* (2) xvi. p. 74. (1896) ), is apparently only an aberration of *M. guttula*, as one of our specimens (a female) from the Aroa River has the two outer pairs of rectrices only tipped with white; the other two, a male and female, agree in every particular with *M. guttula*. Moreover the extent of white on the third outer rectrix varies greatly, from 3 to 12 mm. on the inner web. At the same time it is remarkable that among our series of over fifty specimens only one has absolutely no white on the third rectrix, while all the six skins from Vikaiku in the Owen Stanley Mountains, described as *M. heterurus* by Count Salvadori (*l.c.*), have only the two outermost tail-feathers marked with white.

80. *Monarcha chalybeocephalus chalybeocephalus* (Garn.).

Cf. *Nor. Zool.* 1903. p. 457.

3 ♂ ♂ ad., 2 ♂ ♂ jnv., 1 ♀ ad.; Kumusi River, May, June, August 1907. (Nos. 2895, 2972, 3021, 3083, 3210, 3394.)

Young males have the breast tinged with buff. Females are pure white below.

81. *Monarcha chrysomela aruensis* Salvad.

Cf. *Nor. Zool.* 1903. p. 459.

3 ♂ ♂, 1 ♀ ad.; Kumusi River, May, August 1907. (Nos. 3073, 3074, 3373, 3427.)

“ Iris brown, feet slate, bill slaty blue, tip black.”

82. *Arses telescopthalmus orientalis* Salvad.

*Arses orientalis* Salvadori, *Ann. Mus. Civ. Genova*, (2) ix. p. 566 (1890—Rigo, near Kapa Kapa, east of Port Moresby).

2 ♂ ♂, 5 ♀ ♀; Kumusi River, May 1907. (Nos. 2885, 2886, 2892, 2925, 2933, 2934, 3043.)

When writing about the various subspecies of *Arses telescopthalmus* in *Nor. Zool.* 1903, pp. 461, 462, we had insufficient material to judge from, and our conclusions were therefore too hasty and consequently partly wrong. As it is, all the females and young males from Kumusi have the abdomen yellowish buff, like the female from Collingwood Bay mentioned in our former article, while the abdomen is white in the females of *A. t. telescopthalmus* from Dutch New Guinea, and in *A. t. henkei* from the Astrolabe and Owen Stanley Mountains. The females from Simbang, collected by the late Dr. Nymru (*Nor. Zool.* 1903, p. 461) are quite similar,

or maybe slightly paler on an average; in the latter case they would have to be called *A. t. lauterbachii* (*Arses lauterbachii* Reichenow, *Orn. Monatsber.* 1897, p. 161), in the former *A. lauterbachii* is a synonym of *A. orientalis*. Evidently Professor Reichenow, when describing *A. lauterbachii*, had quite overlooked Salvadori's *A. orientalis*. In 1894 Madarász described another *Arses* from German New Guinea, namely *Arses fenichelii* from Bougu (*Aquila*, i. pp. 92, 93). This bird has a white abdomen and a grey, instead of black, crown, and the back is olivaceous. What this bird may be, and how the adult male may look, we do not yet know, but we have a similar bird, collected by the late Carl Wahnes on Astrolabe Bay, without date and exact locality. Probably *A. fenichelii* is another subspecies of *Arses telescopthalmus*. It may be added that the males of *A. t. telescopthalmus* have more black on the chin, but that those of *A. t. henkei*, *A. t. orientalis* and (if that should be recognisable) *A. t. lauterbachii*, appear to be perfectly indistinguishable.

### 83. *Rhipidura tricolor* (Vieill.).

Cf. *Nor. Zool.* 1903. p. 462.

6 ♂ ♀ ad.; Kumusi River, June, July, August 1907. (Nos. 3185, 3207, 3273, 3291, 3360, 3369.)

### 84. *Rhipidura setosa gularis* (Q. & G.).

Cf. *Nor. Zool.* 1898. p. 525; 1903. p. 463.

5 ♂ ♀ ad.; Kumusi River, May, June 1907. (Nos. 2986, 3104, 3173, 3212, 3251.)

### 85. *Rhipidura threnothorax* S. Müll.

Cf. *Nor. Zool.* 1903. p. 463.

4 ♂ ♀ ad.; Kumusi River, August 1907. (Nos. 3383, 3384, 3395, 3396.)

### 86. *Rhipidura leucothorax* Salvad.

Cf. *Nor. Zool.* 1903. p. 463.

6 ♂ ♀ ad.; Kumusi River, May, June, July 1907. (Nos. 2938, 3153, 3154, 3255, 3272, 3305.)

### 87. *Rhipidura rufidorsa* A. B. Meyer.

Cf. *Nor. Zool.* 1903. p. 465.

6 ♂ ♀ ad.; Kumusi River, June, July, August 1907. (Nos. 3151, 3211, 3336, 3341, 3382, 3425.)

### 88. *Myiagra rubecula* (Lath.).

Cf. *Nor. Zool.* 1907. p. 462.

♂ ad.; Kumusi River, July 28, 1907. (No. 3322.)

Whether the birds from New Guinea are absolutely identical with those from Australia we have not sufficient material (especially females from Australia) to say. Six females from Rossel Island, St. Aignan Island, and Aroa River in British New Guinea have the rufous chest band of a much deeper colour, and more sharply defined, than three females from N.W. Australia.

### 89. *Machaerirhynchus flaviventer novus* subsp. nov.

2 ♂ ♂ ad., 3 ♀ ♀; Kumusi River, June and August 1907. (Nos. 3237, 3315, 3377, 3378, 3390.)

The males differ from the males of *M. flaviventer albifrons* from Eastern Dutch



New Guinea, Mysol and Waigiu in having more white on the throat, and a male from Haidana in Collingwood Bay agrees with them entirely. The above three males have also the undersides bright yellow without an orange or golden tinge, which one sees in *M. f. albifrons*. Under these circumstances it is desirable to separate this form. Type of *M. flaviventer norus*: ♂ ad. Haidana, Collingwood Bay, April 15, 1907, A. S. Meek collection.—A male from Aicora in N.E. British New Guinea agrees with the type, but its underside is more golden yellow, just as in typical *flaviventer*.

In our former article in *Nor. Zool.* 1903, p. 476, we certainly made a mistake in the nomenclature. If *M. albifrons* with the white forehead is a subspecies of a form with a yellow forehead, its nomenclature must be as it is here introduced, because then *xanthogenys* must also be looked upon as a subspecies of *M. flaviventer*. As now treated we have the following forms:

1. *M. flaviventer flaviventer* Gould: North Queensland from Cape York to Cairns, Cedar Bay and Bartle Frere Mountains.

(Mr. Mathews, *Nor. Zool.* xviii. p. 322, January 1912, has separated birds from Cairns, stating they were larger; but the comparison with a pair from Cape York does not confirm this statement.)

2. *M. flaviventer xanthogenys* Gray: British New Guinea from Milne Bay to the Aroa River, and Upper Setekwa, a tributary of the Oetakwa River in the Southern Snow Mountains, Aru Islands.

3. *M. flaviventer albifrons* Gray: Waigiu, Mysol, and N.W. Dutch New Guinea.

4. *M. flaviventer norus*: Kumusi River and Collingwood Bay in Northern British New Guinea.

#### 90. *Coracina boyeri boyeri* (Gray).

Cf. *Nor. Zool.* 1903, p. 214 (sub nomine *Graucalus boyeri*).

4 ♂♂, 2 ♀♀ ad.; Kumusi River, May, June 1907. (Nos. 2999, 3102, 3103, 3051, 3110, 3219.)

“Iris brown, bill and feet black.”

It is interesting to see that these specimens have the darker under wing-coverts of the typical *boyeri* from N.W. New Guinea, which we knew already from Konstantinshafen in German New Guinea, while farther south, at Collingwood Bay and Milne Bay, the very closely allied *Coracina boyeri subalaris* occurs.

#### 91. *Coracina papuensis meekiana* subsp. nov.

Cf. *Graucalus papuensis hypoleucus* in *Nor. Zool.* 1903, p. 205.

5 ♂♂ ad.; Kumusi River, May, June, August 1907. (Nos. 2930, 3033, 3209, 3250, 3420.)

“Iris brown, feet black, bill black.”

This interesting form of *Coracina papuensis* stands between *Coracina papuensis papuensis* and *C. p. stalkerii* Mathews.\* It differs from *C. p. papuensis* in its much paler greyish chest, white throat and almost entirely white abdomen; from *C. p. stalkerii* in the greater extent of black on the lores, there being as a rule no white feathers on the eyelids, and by the less whitish and more grey edges to the

\* Mathews, *Nor. Zool.* xviii. p. 326, under the name of *C. hypoleuca stalkerii*.

secondaries and tips of primaries ; from *C. p. hypoleuca* in the greyish chest, darker wing-edges, and more greyish (not white) line above the black edge on the forehead.

Type : No. 3209, Kumusi River, 17, vi. 1907.

92. *Edoliisoma melas meeki* Rothsch. & Hart.

Cf. *Nor. Zool.* 1903. p. 207.

3 ♂♂, 2 ♀♀ ad., 1 ♂ juv.; Kumusi River, May, June 1907. (Nos. 2997, 3015, 3034, 3076, 3130, 3217.)

“ Iris brown, feet and bill black.”

Specimen No. 3130, a female, is somewhat darker than the rest of the series, but it is still easily distinguished from its allied subspecies.

93. *Lalage karu polygrammica* (Gray).

Cf. *Nor. Zool.* 1903. p. 210.

3 ♂♂ ad., 1 ♂ juv., 1 ♀ ad.; Kumusi River, May, June, July 1907. (Nos. 2923, 2937, 3026, 3206, 3285.)

94. *Cinnyris aspasia christianae* Tristr.

Cf. *Nor. Zool.* 1903. p. 212.

2 ♂♂, 1 ♀ ad., 2 ♂♂ imm. ; Kumusi River, May, June, July 1907. (Nos. 2889, 3002, 3158, 3247, 3275.)

“ Iris brown, feet and bill black.”

These birds agree fully with the series from the D'Entrecasteaux group and the Louisiades Islands, and from Simbang in German New Guinea, mentioned in *Nor. Zool.* 1903. We have also received an adult male from Collingwood Bay (see page 209), showing that this form occurs all along the coast from Huon Gulf south to the D'Entrecasteaux group of islands.

95. *Cinnyris frenata frenata* (S. Müll.).

Cf. *Nor. Zool.* 1903. p. 213.

3 ♂♂, 1 ♀ ; Kumusi River, May, June 1907. (Nos. 2914, 3013, 3014, 3199.)

96. *Dicaeum geelvinkianum rubrocoronatum* Sharpe.

Cf. *Nor. Zool.* 1903. p. 215.

4 ♂♂, 2 ♀♀ ad. ; Kumusi River, May, June 1907. (Nos. 3005, 3053, 3114, 3159, 3191, 3203.)

“ Iris brown, bill and feet black.”

97. *Melanocharis bicolor* Rams.

Cf. *Nor. Zool.* 1907. p. 477.

2 ♂♂ ad., 3 ♀♀ ad. et imm. ; Kumusi River, June, July, August 1907. (Nos. 3172, 3301, 3349, 3391, 3393.)

98. *Glycichaera poliocephala* Salvad.

Cf. *Nov. Zool.* 1903. p. 436.

2 ♀ ad. ; Kumusi River, June, August 1907. (Nos. 3224, 3405.)

“ Iris grey, feet slate ; bill, upper mandible light, lower dark horn.”

These birds agree with the female received from Milne Bay (*Nov. Zool.* 1903), with the exception that the heads are slightly larger. We have received no male of this species. More material would be desirable.

99. *Melilestes megarhynchus megarhynchus* (Gray).

Cf. *Nov. Zool.* 1903. p. 436.

♂ ♀ ad., ♂ imm. ; Kumusi River, June, July 1907. (Nos. 3091, 3363, 3364.)

The young birds are striped with dark brown underneath and have a yellowish ring round the eyes.

In 1903, *l.c.*, we included with *M. megarhynchus* three specimens from Waigiu, but we find now that they are less greenish underneath, with the throats paler and more greyish, and that they should be separated as *M. megarhynchus vagans* (*Arachnothera vagans* Bernstein, *Journ. f. Orn.* 1864, p. 405, Waigiu).

100. *Ptilotis analoga analoga* Rehb.

Cf. *Nov. Zool.* 1898. p. 527, 1899. p. 426, 1903. p. 441.

2 ♂ ♂, 1 ♀ ad. ? ; Kumusi River, May, July 1907.

The specimens from the Kumusi River agree with many others from various parts of New Guinea. Formerly we united with *Ptilotis analoga analoga* (typical locality Western New Guinea) not only the birds from North Queensland, but also those from the Sudest Islands. A renewed careful examination, however, shows that they are not quite similar. The Cape York form, *Ptilotis analoga notata*, has a much weaker bill, and is generally smaller. The birds from the Sudest Islands are a shade paler on the underside, have a distinct ashy grey tinge on the lores and forehead, and the yellow malar line is less distinct ; moreover, they have more powerful bills than *P. a. analoga*, the bills being as strong as in *P. a. notata*. The form from the Sudest Islands might conveniently be called

*Ptilotis analoga vicina* subsp. nov.

Type : No. 1696, ♂ ad., Sudest Islands, S. iv. 1898, A. S. Meek coll.

101. *Ptilotis aruensis sharpei* Rothsch. & Hart.

Cf. *Nov. Zool.* 1903. p. 442.

2 ♀ ♀ ad. ; Kumusi River, May 1907. (Nos. 2905, 2906.)

102. *Ptilotis chrysotis visi* Hart.

Cf. *Nov. Zool.* 1903. p. 445.

2 ♂ ♂, 2 ♀ ♀ ; Kumusi River, May, June 1907. (Nos. 2973, 2989, 3039, 3138.)

103. **Ptilotis finschi** Rothsch. & Hart.

*Ptilotis finschi* Rothsch. & Hart. *Nor. Zool.* 1903. p. 448 (1903) "Mts. Brit. N. Guinea."

♂ ad. ; Kumusi River, May 23, 1907. (No. 2998.)

"Iris brown, feet slaty blue, bill black."

We have now three skins of this rare species in the collection. The type labelled "Mts. Brit. N. Guinea," the one recorded above, and a third labelled "♂, N.E. Coast, Brit. N. Guinea, 2 November, 300 ft.," collected by a Mr. H. G. Livery, All three are very much alike, the one collected by H. G. Livery being slightly darker above, and the margins of outer webs of the primaries more rufous. It is also darker on the underside.

The type came from a doubtful locality, but there is a specimen from Milne Bay in the Leyden Museum, therefore the distribution of this species appears to be the north-east coast of British New Guinea.

104. **Philemon novaeguineae novaeguineae** (S. Müll.).

*Cf. Nor. Zool.* 1903. p. 449.

2 ♀ ♀ ; Kumusi River, May, June 1907. (Nos. 3027, 3161.)

105. **Triceliopsis fulviventris** (Rams.).

*Euthyrhynchus fulviventris*, *Nor. Zool.* 1903. p. 451.

♂ ad. ; Kumusi River, August 13, 1907. (No. 3404.)

"Iris hazel, feet light horn: bill, upper mandible dark, lower light horn."

106. **Pycnopygius stictocephalus** (Salvad.).

*Cf. Nor. Zool.* 1903. p. 451.

♀ ; Kumusi River, May 24, 1907. (No. 3001.)

"Iris brown, feet dark slate, bill black."

107. **Pachycephala dubia** Rams.

*Cf. Nor. Zool.* 1903. p. 106.

4 ♂ ♀ ad. ; Kumusi River, May, July 1907. (Nos. 2910, 2922, 3316, 3335.)

Specimen No. 3335, sexed ♀, is below very buff, the buff colour extending strongly down the sides and on the flanks. Four skins from Mt. Gayata and Sogere are paler underneath, and one, from Mt. Gayata, has the under wing-coverts tinged with lemon-yellow, though the abdomen has no yellow whatever, the yellow abdomen distinguishing *P. griseiceps*.

108. **Cracticus cassicus** (Bodd.).

*Cf. Nor. Zool.* 1903. p. 92.

6 ♂ ♀ ad. ; Kumusi River, May, June 1907. (Nos. 2891, 2950, 3180, 3238, 3239, 3240.)

109. **Pitohui ferrugineus clarus** (Meyer).

*Cf. Nor. Zool.* 1903. p. 98.

6 ♂ ♀ ad. ; Kumusi River, May, June 1907. (Nos. 2935, 3116, 3119, 3252, 3263.)

110. *Pinarolestes megarhynchus superfluus* subsp. nov.

3 "♂♂," 2 "♀♀" ad., 1 "♀" imm. ; Kumusi River, May, June 1907. (Nos. 2961, 2962, 2975, 3000, 3006, 3166.)

Closely allied to *P. megarhynchus despectus* Rothsch. & Hart. (*Nor. Zool.* 1903. p. 100, 1907. p. 470) from Milne Bay, the Owen Stanley Mountains, and the Upper Aroa River, but the upperside is darker, less greenish or olive, more of a deep russet-brown, agreeing in this respect more with *P. megarhynchus madaraszii* Rothsch. & Hart. (*Nor. Zool.* 1903. p. 100) from the Sattelberg in Kaiser Wilhelmsland, of which we have now seen three skins, one in the Budapest Museum, and two, both collected by the late Carl Wahnes, in the Tring Museum, but the latter is much smaller (wings, 85, 88 mm) and more rufescent underneath.

Underneath *P. m. superfluus* agrees well with *P. m. despectus*, though in most specimens the dark markings on the jugulum are more prominent. The wings of the new form measure from 93.5 (in the female) to 96, and from 96 to 101 (in the male), while those of *P. m. despectus* range from 85 to 92, and in one instance (a specimen from Mt. Cameron) to 95 mm.

Type of *P. m. superfluus*: No. 2962, ♂ ad., Kumusi River, 17. v. 1907.

Two specimens collected on the "Aicora River," in Northern British New Guinea, are intermediate between the two, but agree more with *P. m. despectus*.

111. *Dicrurus carbonarius* (Sharpe).

Cf. *Nor. Zool.* 1903. p. 109.

3 ♂♂, 2 ♀♀ ad.; Kumusi River, May, June 1907. (Nos. 3045, 3086, 3101, 3111, 3148).

According to Meek's sexing the female has a smaller bill and shorter wing. Wing in the males 158, in the females 148 mm.

112. *Oriolus striatus* Quoy et Gaim.

Cf. *Nor. Zool.* 1903. p. 111.

4 ♂♀ ad., ♂♀ imm.; Kumusi River, May, June 1907. (Nos. 3016, 3022, 3032, 3065, 3098, 3226.)

Two immature birds have the bill black, and (in one especially) very distinct white superciliaries, sides of throat and ear-coverts almost uniform black. An immature female from Kapanr is similarly marked.

113. *Mino dumontii* Less.

Cf. *Nor. Zool.* 1903. p. 113.

4 ♂♀ ad. ; Kumusi River, May, June, August 1907.

114. *Calornis metallicus* (Temm.).

Cf. *Nor. Zool.* 1903. p. 114.

♂♀ ad., ♂ imm. ; Kumusi River, June 1907. (Nos. 3133, 3134, 3165.)

115. **Calornis cantoroides** Gray.

Cf. *Nov. Zool.* 1903. p. 115.

6 ♂ ♀ ad. ; Kumusi River, May, June 1907. (Nos. 2955, 3216, 3241, 3256—3258.)

116. **Chlamydera cerviniventris** Gould.

Cf. *Nov. Zool.* 1903. p. 68.

*Chlamydera cerviniventris* Gould, *Proc. Zool. Soc. Lond.* 1850. p. 201 (1851—Cape York).

6 ♂ ♂ ad. ; Kumusi River, May 1907. (Nos. 2920, 2946, 2994, 2995, 3040, 3041.)

117. **Cicinnurus regius regius** (L.).

Cf. *Nov. Zool.* 1903. p. 77.

3 ♂ ♂ ad., 2 ♂ ♂ imm., 1 ♀ ad. ; Kumusi River, May, June, July 1907. (Nos. 3066, 3093, 3128, 3323, 3333, 3334.)

“Iris brown, feet cobalt blue, bill light straw yellow.”

118. **Paradisea apoda intermedia** De Vis.

Cf. *Nov. Zool.* 1903. p. 81 ; also *Ibis*, 1911. pp. 352, 367.

2 ♂ ♂ imm., 2 ♀ ♀ ; Kumusi River, June, August 1907. (Nos. 3175, 3253, 3261, 3414.)

119. **Manucodia chalybata orientalis** Salvad.

Cf. *Nov. Zool.* 1903. p. 85.

2 ♂ ♂, 1 ♀ ; Kumusi River, June 1907. (Nos. 3162, 3270, 3271.)

---

LIST OF BIRDS COLLECTED BY MR. A. S. MEEK AT  
HAIDANA, COLLINGWOOD BAY, IN NORTH-EASTERN  
BRITISH NEW GUINEA.

BY THE HON. WALTER ROTHSCHILD AND ERNST HARTERT.

THOUGH not a large collection, it is interesting to publish a list of it, because the birds between the East Cape of New Guinea and Kaiser Wilhelmsland have hitherto not been too well known. Some of the forms, such as *Gerygone conspicillata ramuensis* Rehw., *Eupetes geislerorum* Mey., and *Ailuroedus buccoides geislerorum* Mey., are distinctly those known from German New Guinea, while others agree with those inhabiting the mountains of British New Guinea, such as *Ptilotis chrysotis risi* Hart.

The collection was made in April 1907.

1. *Ptilinopus coronulatus huonensis* A. B. Meyer.

♂ ♀ ad.; Haidana, April 16, 1907. (Nos. 2848, 2881.)

2. *Megaloprepia magnifica poliura* Salvad.

♂ ad.; Haidana, April 13, 1907. (No. 2831.)

3. *Zonerodius heliosylus* (Less.).

♀ ad.; Haidana, April 17, 1907. (No. 2863.)

4. *Alcyone azurea lessoni* Cassin.

♂ ad.; Haidana, April 18, 1907. (No. 2872.)

5. *Melidora macrorhina macrorhina* (Less.).

♀ ad.; Haidana, April 13, 1907. (No. 2829.)

6. *Sauromarptis gaudichaud* (Quoy et Gaim.).

♂ ad.; Haidana, April 18, 1907. (No. 2868.)

7. *Halcyon sancta* Vig. & Horsf.

♂ ad.; Haidana, April 18, 1907. (No. 2876.)

8. *Tanyiptera dea galatea* Gray.

1 ♂ ad., ♂ ♀ imm.; Haidana, April 11, 13, 1907. (Nos. 2820, 2836.)

9. *Merops ornatus* Lath.

♂ ad.; Haidana, April 16, 1907. (No. 2845.)

10. *Geoffroyus personatus aruensis* Gray.  
♀ Haidana, April 19, 1907. (No. 2880.)
11. *Loriculus aurantiifrons meeki* Hart.  
2 ♀ ♀ ad.; Haidana, April 12, 1907. (Nos. 2822, 2823.)
12. *Podargus papuensis* Quoy & Gaim.  
♂ ad.; Haidana, April 15, 1907. (No. 2840.)
13. *Centropus menbeki menbeki* Less. & Garn.  
♂ ad.; Haidana, April 15, 1907. (No. 2838.)
14. *Cacomantis castaneiventris* Gould.  
♂ ad.; Haidana, April 18, 1907. (No. 2865.)
15. *Cacomantis assimilis assimilis* (Gray).  
♂ ad.; Haidana, April 18, 1907. (No. 2871.)
16. *Monarcha menadensis* (Quoy & Gaim.).  
♂ ad.; Haidana, April 18, 1907. (No. 2867.)
17. *Monarcha guttula* (Garn.).  
♂ ♀ imm.; Haidana, April 13, 16, 1907. (Nos. 2833, 2848.)
18. *Monarcha melanopsis* (Vieill.).  
♀ ad.; Haidana, April 13, 1907. (No. 2834.)
19. *Arses telescopthalmus orientalis* Salvad.  
♂ ad.; Haidana, April 17, 1907. (No. 2859.)
20. *Rhipidura setosa gularis* Müll.  
♀ ad.; Haidana, April 15, 1907. (No. 2841.)
21. *Machaerirhynchus xanthogenys albifrons* Gray.  
♂ ad.; Haidana, April 15, 1907. (No. 2839.)
22. *Gerygone chrysogaster* Gray.  
♂ ad., ♀ ? ad.; Haidana, April 17, 1907. (Nos. 2821, 2861.)
23. *Gerygone conspicillata ramuensis* Rehw.  
Cf. *Nov. Zool.* 1903. p. 474.  
1 ♀ ad.; Haidana, April 18, 1907. (No. 2874.)  
"Iris light reddish brown, feet light slate, bill black."



24. **Eupetes geislerorum** Mey.

♀ ad.; Haidana, April 16, 1907. (No. 2846.)

25. **Artamus leucorhynchus leucopygialis** Gould.

Cf. *Nov. Zool.* 1903. p. 112.

♀ ad.; Haidana, April 11, 1907. (No. 2817.)

26. **Ailuroedus buccoides geislerorum** Mey.

Cf. *Nov. Zool.* 1903. p. 66.

1 ♂, 2 ♀ ad.; Haidana, April 1907. (Nos. 2843, 2858, 2870.)

27. **Ptilorhis intercedens** Sharpe.

♀ ad.; Haidana, April 13, 1907. (No. 2830.)

28. **Pitohui ferrugineus clarus** (Meyer).

♂ ad.; Haidana, April 15, 1907. (No. 2844.)

29. **Pachycephala dubia** Rams.

♂ ♀ ad.; Haidana, April 16, 17, 1907. (Nos. 2849, 2856.)

30. **Dicrurus carbonarius** (Sharpe).

♂ imm.; Haidana, April 13, 1907. (No. 2832.)

31. **Cinnyris aspasiae christinae** Tristr.

♂ ad.; Haidana, April 13, 1907. (No. 2828.)

32. **Ptilotis chrysotis visi** Hart.

♂ ♀ ad.; Haidana, April 17, 18, 1907. (Nos. 2864, 2879.)

33. **Philemon novaeguineae novaeguineae** (S. Müll.).

♂ ad.; Haidana, April 18, 1907. (No. 2866.)

---

## DESCRIPTION OF TWO NEW BIRDS FROM THE TIMOR GROUP OF ISLANDS.

By C. E. HELLMAYR.

### *Dicaeum hanieli* sp. nov.

♂ ad. Head above, back, upper wing- and tail-coverts black, strongly glossed with metallic blue; quills blackish, exteriorly edged with steel blue; rectrices metallic bluish black. Sides of the head sooty black; chin, throat, and foreneck creamy white; chest bright scarlet, the basal portion of the feathers white; remainder of under parts creamy white, a narrow blackish stripe along the middle of the breast; axillaries and under wing-coverts snowy white; quills with a narrow, whitish margin along inner web. "Iris dark brown, feet and bill black." Wing  $56\frac{1}{2}$ ; tail 32; bill 9; tarsus 14 mm.

*Type* in the Zoological Museum, Munich, No. 11. 2422, ♂ ad. Bonleo, Timor, 3000 ft., June 8, 1911. Collected by C. B. Haniel, Esq., No. 233.

*Obs.* This new Flower-picker, of which unfortunately but a single adult male was obtained in the mountainous interior of the island of Timor, appears to be most nearly allied to *D. sanguinolentum* Temm., from Java. It differs, however, by its much larger size,\* quite differently shaped bill, and several colour-characters. The upper parts are glossed with metallic blue instead of bright purplish blue; the throat and foreneck as well as the belly are pale creamy white instead of deep buffy yellow; the red of the chest is less extended, and of a clearer, more scarlet tinge; the blackish stripe in the middle of the breast much more restricted, also duller in hue; the dark slaty olive colour of the flanks, so conspicuous a feature in *D. sanguinolentum*, is altogether absent in the new bird. In the Javan species the malar region and sides of the throat are sooty black like the ear coverts, and the middle of the throat only is deep buffy yellow, whereas *D. hanieli* has the whole throat as well as the foreneck clear creamy white. The most striking difference, however, consists of the shape of the bill. While *D. sanguinolentum* is characterised by an extremely compressed, slender bill (width at base scarcely exceeding 2 to  $2\frac{1}{2}$  mm.), the Timor-bird, in that respect, rather resembles the well-known *D. mackloti*, having a thick, blunt beak, which is fully 4 mm. broad at the nostrils, and gradually narrows on its terminal portion, without ending, however, in an acute tip, as is invariably the case in its western ally. The legs and feet, too, are much stronger in the new bird, the tarsus being both longer and thicker.†

\* In eight males of *D. sanguinolentum* the length of the wing varies from 47 to 50, that of the tail from 25 to 28 mm.

† This very interesting new species, though agreeing with *Dicaeum sanguinolentum* of Java in the absence of red on the upper tail-coverts and rump, is really more allied to the group of *D. mackloti* and its various subspecies, as it agrees with them in the heavy bill and general coloration, but it differs from all these forms in having the upper tail-coverts and lower rump uniform blue-black, like the entire upperside, and in the entirely creamy white throat.—E. HARTERT.

**Neopsittacus iris wetterensis** subsp. nov.

*Neopsittacus iris* (nec Temminck) Hartert. *Nov. Zool.* xi. 1904. p. 194 (Wetter Island).

*Adult.* Most nearly allied to *N. iris iris*, from Western Timor, but easily distinguishable by its larger size, longer as well as more robust bill, and by having the cheeks and malar region deep grass-green instead of light yellowish grey. Wing 123—126; tail 80—85; bill 17—18 mm.

*Type* in the Tring Museum; ♂ ad., Wetter Island, September 18, 1902. Collected by Heinrich Kühn, No. 02918.

*Hab.* Island of Wetter, north-east of Timor.

*Obs.* When describing the large collections formed by the late Heinrich Kühn on the South-west Islands, Dr. E. Hartert quite correctly pointed out the differences between *N. i. rubripileum*, of Eastern Timor, and the birds from Wetter, but owing to lack of material of the typical form the latter were referred to *N. iris*. The Zoological Museum of Munich having recently received ten specimens of the true *N. iris* from a place called Lelogama in Western (Dutch) Timor, the distinctness of the Wetter form became at once apparent. While agreeing with *N. i. iris* in the reddish-violet hue of the ear-coverts and in the bluish or lilac wash on the pileum, *N. iris wetterensis* is very much larger, and the sides of the head are deeper and more grass-green. *N. iris rubripileum* Salvad., from Eastern Timor, may be distinguished by its smaller size, uniform red upper part of the head, and more bluish ear-coverts. There are thus three races:

(a) *N. iris iris* (Temm.). Western Timor. Smaller: wing 114—118; tail 74—79; bill 15—16½ mm. Pileum washed with purplish blue or lilac; ear patch reddish violet; sides of the head light yellowish green.

(b) *N. iris rubripileum* Salvad. Eastern Timor (Deli, Atapupu, Filaran, etc.). Wing 113—117; tail 72—76; bill 15—16 mm. Pileum uniform red, or very slightly tinged with greenish on posterior portion; ear-coverts violet blue; sides of head light yellowish green.

(c) *N. iris wetterensis* Hellm. Wetter Island. Larger: wing 123—126; tail 80—85; bill 17—18 mm. Coloration as in *N. i. iris*, but sides of head darker and more grass-green.

---

NEW *LITHOSIANA*E.

By THE HON. W. ROTHSCHILD, PH.D., F.R.S.

1. *Graphosia reticulata* sp. nov.

♂. Head and thorax yellowish buff; antennae brown; abdomen greyish buff, last two segments more yellowish.—Forewing creamy buff, an oblique concave antemedial band, a postmedian band, and a terminal band joined to each other and base of wing by longitudinal bars, wood-brown, fringe creamy buff.—Hindwing creamy buff.

♀. similar, but lacks antemedian band on forewings.

Length of forewing: 13 mm.

*Hab.* Kumusi River, N.E. British New Guinea, June 1907 (A. S. Meek).

2. *Lambula sericea* sp. nov.

♂. Head and body buffish grey; abdomen darker, anal tuft yellowish; antennae brown.—Forewing with costal area folded back, and apex abruptly truncated; pale greyish buff clouded with darker wood-buff with a lustrous satiny gloss.—Hindwing pale wood-buff.

Length of forewing: 12 mm.

*Hab.* Mount Goliath, 5000—7000 ft., Central Dutch New Guinea, January 1911 (type). Angabunga River, affl. St. Joseph's River, British New Guinea, 6000 ft., November 1904—February 1905 (A. S. Meek).

3. *Lambula brunneomarginata* sp. nov.

♂. Head, body, and antennae wood-brown, anal tuft yellow.—Forewing with costal area folded back; base, costal and terminal margins wood-brown with a satiny lustre, rest of wing cream-colour.—Hindwing cream-colour.

♀ has not got costal area folded back; costa strongly convex and hindwings not so sharply triangular as in ♂.—Forewing with very strong satiny sheen, almost metallic white: a broad antemedian band, a median large round blotch, and a broad subterminal band elbowed outwards greenish olive-bronze.—Hindwing mouse-grey.

Length of forewing: ♂ 12 mm., ♀ 10 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek) (type); Milne Bay, British New Guinea, 1898 (A. S. Meek).

4. *Lambula sericeoides* sp. nov.

♂. Closely allied to *sericea* Rothsch. Head, thorax, and antennae dark brown, vertex and patagia pale wood-buff; abdomen grey-buff, anal tuft orange-buff.—Forewing creamy buff; folded-back costal area, base, a large patch on vein 1, a broad subterminal band and a narrow terminal one bronzy wood-brown.—Hindwing pale creamy buff.

♀ has not got costal area of forewing folded back; the costa is strongly convex and the forewing **before** the apex is abruptly truncated. Head, thorax, and antennae chocolate-brown, vertex and tegulae snow-white; abdomen orange-buff, greyish on first two segments.—Forewing snow-white; a large antemedian patch, a postmedian and a subterminal band chocolate-brown; the two bands are coalescent and the antemedian patch is joined to the postmedian band by a narrow bar.—Hindwing yellowish wood-brown.

Length of forewing: ♂ 12 mm., ♀ 10.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek) (type); near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

#### 5. *Lambula bimaculata* sp. nov.

♂. Also similar to *sericea* sp. nov. Head, antennae, and thorax brown; abdomen pale wood-brown, first two segments grey-buff.—Forewing cream-buff; costal area folded back; base of wing, a large patch on vein 1, an irregular patch beyond this and above vein 1, a broad subterminal band, and a terminal line bronzy brown.—Hindwing very pale creamy buff.

♀. Lacks folded-back costal area and has normally shaped wings. Head, thorax, and antennae olive-bronze-brown; abdomen brownish mouse-grey.—Forewing white; base of wing, antemedian broad band, a large median patch, a curved postmedian band, and a narrow terminal line greenish bronze-brown.—Hindwings mouse-grey.

Length of forewing: ♂ 11 mm.; ♀ 13 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., January 1906 (A. S. Meek).

#### 6. *Lambula albofasciata* sp. nov.

♀. Head snow-white; antennae, basal fourth white, rest dark brown; thorax and abdomen blackish chocolate-brown.—Forewing blackish chocolate-brown; a subbasal patch, a median and a postmedian oblique transverse band, and a spot at apex snow-white.—Hindwing basal two-thirds semihyaline white, outer third sooty brown.

Length of forewing: 12 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., January 1906 (A. S. Meek).

#### 7. *Lambula albiceps* sp. nov.

♂. Head snow-white; antennae, thorax, abdomen, and forewings chocolate-brown.—Hindwings, basal two-thirds semihyaline white, outer third sooty brown.

There is a scent-organ containing a tuft of long hair on forewings, and also one in the shape of a large costal lappet with a patch of androconia on it on hindwings.

♀ similar, but without scent-organs on wings.

This may be an extreme form of the preceding species, but this could only be determined with the aid of much longer series than I possess.

Length of forewing: ♂ 10 mm., ♀ 12 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., January 1906 (A. S. Meek).

8. *Lambula bicolor* sp. nov.

♀. Head, antennae, and thorax creamy yellowish white; abdomen mouse-grey, anal tuft cream-colour.—Forewing creamy yellowish white, streak on median nervure and area below it obliquely sooty grey.—Hindwing greyish cream-white.

Length of forewing: 9 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

9. *Lambula substrigillata* sp. nov.

♀. Antennae brown; head and thorax cream-white; abdomen grey, anal tuft yellowish cream.—Forewing greyish cream-white irrorated with almost obsolete brownish streaks.—Hindwing greyish cream-white.

Length of forewing: 10 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

10. *Lambula minuta* sp. nov.

♂. Antennae yellowish brown, first three joints white; head white; thorax dark grey, tegulae and base of patagia white; abdomen yellowish buff tinged with grey.—Forewing white, basal half of wing from middle of cell to hind margin brownish sooty grey, a broad subterminal and a narrow terminal line pale grey.—Hindwing greyish white.

Length of forewing: 7 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

11. *Lambula flavobrunnea* sp. nov.

♂. Head, thorax, and antennae orange-brown; abdomen wood-grey, anal tuft yellow.—Forewing bright orange-brown, a curved postmedian line from subcosta to above vein 1 sooty black.—Hindwing orange-buff.

Length of forewing: 12 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

12. *Lambula aurantiaca* sp. nov.

♂. Head, antennae, and thorax brownish orange; abdomen sooty black, basal segment and anal tuft yellowish.—Forewing brownish orange, a narrow transverse antemedian and a similar postmedian line greyish brown; in some specimens the space between these lines is filled up, forming a broad discal band.—Hindwing pale cream-buff.

Length of forewing: 13 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

13. *Lambula castanea* sp. nov.

♂. Head orange; antennae chestnut; thorax deep brown; abdomen wood-brown, anal tuft orange.—Forewing chestnut; a median transverse line and terminal margin sooty brown.—Hindwing sooty brown-grey, fringe and base of wing paler.

Length of forewing : 13 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

14. *Lambula caprimimoides* sp. nov.

♂. Antennae buff-brown; head and thorax rufous chocolate; abdomen sooty brown, anal tuft buff.—Forewing: costa strongly arched, wing truncate towards apex; rufous chocolate, and an antemedian and a postmedian zigzag very thin transverse line sooty black, a black spot at tornus.—Hindwing: sooty mouse-grey.

This species has a striking resemblance in shape to *Caprimima rotunda* Hamps.

Length of forewing : 10.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, February 1906 (A. S. Meek).

15. *Scoliacma khasiana* sp. nov.

♂. Head creamy white; antennae pale brown; thorax and abdomen mouse-grey, tegulae whitish.—Forewing: creamy white clouded with mouse-grey, a darker mouse-grey transverse median bar and a similar patch below vein 5 as far as vein 2; a curious fold covered with large rough scales below basal two-thirds of subcostal nervure.—Hindwing: mouse-grey, fringe paler.

Length of forewing : 14.5 mm.

*Hab.* Khasis, Assam, June 1894 (Native coll.).

16. *Scoliacma fuliginosa* sp. nov.

♂. Head, antennae, and thorax sooty wood-brown; abdomen dark greyish wood-brown, anal tuft paler.—Forewing: sooty wood-brown: a discal and post-discal darker transverse line, terminal edge also darker.—Hindwing: pale wood-brown.

Length of forewing : 13 mm.

*Hab.* Angabunga River, affl. of St. Joseph's River, British New Guinea 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

17. *Scoliacma brunescens* sp. nov.

♂. Head, antennae and thorax brown; abdomen wood-grey, anal tuft buff.—Forewing: reddish wood-brown; on the underside of the disc is a large and curious scent-organ full of black androconial scales, basally of this runs a fold covered with large rough scales.—Hindwing: greyish buff.

♀ has forewing paler buffish wood-brown crossed by a transverse darker median line composed of small streaks crowded together.

Length of forewing : ♂ 13 mm.; ♀ 12.5 mm.

*Hab.* Angabunga River, affl. of St. Joseph's River, British New Guinea. 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

18. *Scoliacma bivittata* sp. nov.

♀. Head, thorax and abdomen dark purplish grey, anal tuft yellowish.—Forewing: whitish grey densely powdered with purplish brown scales; two postmedian transverse bands and terminal edge purple-brown.—Hindwing: yellowish grey.

Length of forewing: 13-15 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000-7000 ft., February 1911 (A. S. Meek).

19. **Poliosia flavogrisea** sp. nov.

♀. Head, antennae and thorax tawny orange; abdomen above sooty black, sides and anal tuft orange-yellow.—Forewing: tawny orange, a small black spot at apex.—Hindwing: dark sooty grey.

Length of forewing: 12 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October-December 1910 (A. S. Meek).

20. **Chrysoscota albomaculata** sp. nov.

♂. Head and thorax dark wood-brown, antennae pale brown; abdomen dark sooty grey, claspers yellowish.—Forewing: bronzy wood-brown, a large oblong creamy white patch in cell.—Hindwing: dark sooty grey.

Length of forewing: 14 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).

21. **Chrysoscota lacteiplaga** sp. nov.

♂. Head and margins of tegulae and patagia cream-colour; rest of thorax and abdomen sooty grey-black, anal tuft and claspers cream-colour, antennae brown.—Forewing: cream-colour; a large patch on basal half below cell, a dot in cell, and a large patch occupying almost the entire apical third of wing wood-brown.—Hindwing: sooty blackish grey.

♀ differs in having head and margins of tegulae and patagia golden, the anal tuft sooty black, and the entire forewing bronzy wood-brown with a cream yellow spot at end of cell and one on subcosta just beyond it.

Length of forewing: ♂ 12 mm., ♀ 14 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October-December 1910 (A. S. Meek).

One of the males has the brown spots more or less joined and drawn out into two longitudinal bands; it may be called ab. **conjuncta** ab. nov.

22. **Nishada brunnea** sp. nov.

♂. Head and thorax orange; apical half of patagia and abdomen sooty purple-brown, anal tuft white; antennae brown.—Forewing: dark purple brown.—Hindwing: costal half grey, lower half dark purple-brown.

♀ differs in having fore- and hindwings uniform sooty brownish grey.

Length of forewing: ♂ 15 mm., ♀ 17 mm.

*Hab.* Kumusi River, N.E. British New Guinea, August 1907 (A. S. Meek).

23. **Nishada flavens** sp. nov.

♂. Antennae yellowish buff; head, thorax and abdomen maize-yellow.—Forewing: maize-yellow.—Hindwing: yellowish buff.

Length of forewing: 17 mm.

*Hab.* Java.



24. *Nishada testacea* sp. nov.

♂. Antennae brown; head and thorax testaceous wood-brown; abdomen yellowish wood-brown.—Forewing: testaceous wood-brown.—Hindwing: semi-hyaline greyish buff, abdominal third of wing clothed with long orange hair.

Length of forewing: 18 mm.

*Hab.* Padang Rengas, Malay Peninsula.

25. *Nishada griseoflava* sp. nov.

♂. Antennae brown: frons sooty black, vertex and thorax testaceous buff; abdomen greyish orange-buff.—Forewing: testaceous buff.—Hindwing: buffish yellow, abdominal area clothed with orange hairs.

Length of forewing: 15 mm.

*Hab.* Manila, Philippine Islands (J. Whitehead).

26. *Tigrioides margaritacea* sp. nov.

♂. Head greyish white, antennae greyish white with orange-brown pectinations; thorax and abdomen buffish pearl-grey, anal tuft yellowish.—Forewing: costa strongly convex, wing at termen abruptly truncate and from apex of vein 2 to middle of inner margin much crumpled; veins 1 and 2 very sinuate, almost coalescing at termen; colour buffish pearl-grey.—Hindwing: costal half semi-hyaline silvery grey, rest of wing pale brownish wood-grey; whole wing very broad and much crumpled.

Length of forewing: 11 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

27. *Tigrioides approximans* sp. nov.

♂. Similar in colour and general appearance to preceding species, but larger. The forewing is longer and narrower, the hindwing is less broad, the silvery grey area on costal portion of wing is much reduced and both wings are hardly at all crumpled.

Length of forewing: 15 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

28. *Tigrioides lactea* sp. nov.

♂. Resembles *margaritacea* in shape, but the wings are less crumpled. Head, thorax, and first two abdominal segments cream-white, rest of abdomen more greyish; antennae white, with brownish pectinations.—Forewing cream-white, on and below vein 1 buff.—Hindwing: costal half greyish silvery white, rest pale yellowish grey.

Length of forewing: 9.5 mm.

*Hab.* Near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

29. *Tigrioides albogrisea* sp. nov.

♀. Antennae brown; head and thorax creamy white; abdomen pale grey; anal tuft buff.—Forewing satiny snow-white.—Hindwing very pale ash-grey, fringe white.

Length of forewing: 10 mm.

*Hab.* Near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

30. *Tigrioides albescens* sp. nov.

♂ Antennae pale brown; head, thorax, and abdomen white.—Forewing chalk-white.—Hindwing: chalk-white, costal third of wing occupied by a large yellowish ash-brown patch of androconia.

♀ entirely satiny snow-white, abdomen with greyish tinge.

Length of forewing: ♂ 11 mm., ♀ 13 mm.

*Hab.* Near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

31. *Tigrioides fuscescens* sp. nov.

♀. Antennae brown; head, thorax, and abdomen greyish buff.—Forewing greyish buff, basal half below subcostal washed with brown.—Hindwing semihyaline buff.

Length of forewing: 12.5 mm.

*Hab.* Kumusi River, N.E. British New Guinea, August 1907 (A. S. Meek).

32. *Tigrioides flavescens* sp. nov.

♀. Head, antennae, thorax, and abdomen orange-buff.—Forewing orange-buff.—Hindwing semihyaline yellowish buff. Another female is paler and more yellow.

Length of forewing: 11 mm.

*Hab.* Kumusi River, N.E. British New Guinea, August 1907 (A. S. Meek).

33. *Tigrioides rufescens* sp. nov.

♂. Antennae fuscous; head and thorax orange-rufous; abdomen orange; anal tuft sooty black.—Forewing orange-rufous washed with brown.—Hindwing sooty grey, paler towards base, abdominal margin ochre.

Length of forewing: 10.5 mm.

*Hab.* Kumusi River, N.E. British New Guinea, June 1907 (A. S. Meek).

34. *Rhagophanes aurantia* sp. nov.

♂. Antennae brownish; head and thorax brilliant orange.—Forewing brilliant orange, an antemedian and a median zigzag transverse iron-grey band freckled with white scales; between the median band and termen a number of iron-grey patches with white freckling, as if two further bands had been broken up.—Hindwing yellowish buff.

Length of forewing: 8 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

35. **Mithuna quadrilineata quadrilineata** subsp. nov.

♂. Antennae brown; head and thorax dark orange-buff; abdomen greyish orange-buff.—Forewing dark orange-buff; a subbasal, an antemedian, a postmedian, and a terminal transverse irregular black line, the latter somewhat broken into spots; from centre of postmedian line a horizontal streak almost joins terminal line.—Hindwing yellowish buff.

Length of forewing: 13 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

36. **Mithuna quadrilineata dilutior** subsp. nov.

♂. Much paler in colour; wings pale buffish yellow with bands or lines purple-grey.

*Hab.* Near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

37. **Crambidia bifasciata** sp. nov.

♀ (type). Antennae brownish; head yellowish grey; thorax and abdomen wood-grey.—Forewing wood-grey somewhat freckled with darker scales; an antemedian bar and a postmedian transverse one of purplish wood-brown.—Hindwing yellowish mouse-grey.

♂ similar, but darker, and transverse bars less distinct.

Length of forewing: ♀ 12 mm., ♂ 13 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

38. **Ilema perplexa** sp. nov.

♀. Antennae brown; frons dark grey; vertex orange; thorax violet-grey; tegulae and outer edge of patagia orange; abdomen mouse-grey; anal tuft yellow.—Forewing violet-grey, base and costal area broadly yellow-buff, this colour running round apex and rapidly narrowing along termen becomes obsolete at tornus.—Hindwing yellow-buff.

Length of forewing: 18 mm.

*Hab.* Astrolabe Bay, German New Guinea (C. Wahnes).

39. **Ilema germana** sp. nov.

♀. Near to *perplexa*, but at once distinguishable by the black antennae, orange head, orange-buff abdomen, and the slate-grey forewings with orange margins of uniform width from base of costa to tornus.

Length of forewing: 20 mm.

*Hab.* Near Oetakwa River, Snow Mts., Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

40. **Ilema rufofasciata** sp. nov.

♂. Antennae rufous; head, thorax, and abdomen yellowish grey.—Forewing brownish cream-buff, a median oblique rufous-chestnut transverse band.—Hindwing cream-buff.

Length of forewing: 17.5 mm.

*Hab.* Man Escarpment, British East Africa, 6500—9000 ft., March 1901 (W. Doherty).

41. *Ilema violitincta* sp. nov.

♂. Antennae brown; head brown-buff; thorax mauve-brown; abdomen, basal half dirty buff, apical half black.—Forewing violet mauve-brown, paler on outer third; from base of wing almost to end of cell is a large scent-organ of rough recurved scales, at the end of which is a chocolate patch, and on costa near middle a brown streak.—Hindwing orange-buff.

♀ has duller forewings, with area below median vein in basal half chocolate, and a small dark dot in cell and one on costa obliquely above it; thorax dark brown, abdomen sooty grey.—Hindwing greyish wood-brown, tinged with buff in costal and abdominal areas and on fringe.

Length of forewing: ♂ 12—14 mm.; ♀ 15 mm.

*Hab.* Tambora, Sumbawa, 2500—4000 ft., June 1896 (W. Doherty).

42. *Ilema aurantiotestacea* sp. nov.

♂. Head and tegulae orange; rest of thorax and apical half of abdomen black, basal half of abdomen grey.—Forewing greyish orange-buff, apical and terminal fringe orange; a large, almost square, velvety black discal patch.—Hindwing orange-buff.

Length of forewing: 12 mm.

*Hab.* Amboina, August 1892 (W. Doherty).

43. *Ilema lutescens* sp. nov.

♂. Head dark buff; thorax brown, tegulae and patagia dark buff; abdomen greyish buff, apical half sooty brown.—Forewing lemon-buff washed with grey and with a black-brown spot at end of cell.—Hindwing lemon-buff.

Length of forewing: 13 mm.

*Hab.* Sula Besi, October 1897 (W. Doherty).

44. *Ilema curviplaga* sp. nov.

♂. Head yellowish grey; antennae brownish; thorax brown-black, tegulae and outer two-thirds of patagia yellowish grey; abdomen mouse-grey, anal tuft buff.—Forewing creamy grey with a shaded transverse bar on outer fourth; a curved discal very broad brown-black band.—Hindwing darker cream-grey, fringe yellowish.

Length of forewing: 16 mm.

*Hab.* Gunong Ijau, Malay Peninsula.

45. *Ilema pyralina* sp. nov.

♀. Antennae brown; head orange; thorax and abdomen sooty brown, tegulae orange.—Forewing dark wood-brown, a broad dark buff costal margin on basal two-thirds of wing.—Hindwing, basal half dark buff, outer half dark wood-brown.

Length of forewing: 10 mm.

*Hab.* Tambora, Sumbawa, 2500—4000 feet, June 1896 (W. Doherty).

46. *Ilema cuprea* sp. nov.

♂. Antennae fuscous; head and thorax orange; abdomen sooty grey, anal tuft and sides of two last segments orange.—Forewing brown purple with coppery bronze sheen, median fold and patch in cell orange.—Hindwing basal three-fifths orange buff, outer two-fifths sooty brown.

Length of forewing: 13 mm.

*Hab.* Kumasi River, N.E. British New Guinea, August 1907 (A. S. Meek).

47. *Ilema nitens* sp. nov.

♂. Antennae fuscous; head deep orange; thorax slate-grey, tegulae and large patch on hinder part dark orange; abdomen brownish orange.—Forewing brownish slate-grey with strong cupreous sheen; base and a broad band along costal margin orange.—Hindwing basal two-fifths orange-buff, outer three-fifths brownish slate.

Length of forewing: 14.5 mm.

*Hab.* Wassiu, E. Africa, April 1889.

48. *Ilema testacea testacea* subsp. nov.

♂. Antennae sooty brown; head and thorax sooty blackish grey, tegulae dirty buffish testaceous; abdomen dirty grey-buff.—Forewing testaceous buff.—Hindwing orange-buff.

Length of forewing: 17 mm.

*Hab.* Treasury Island, Solomon Islands, August 5—10, 1901 (A. S. Meek).

49. *Ilema testacea louisiadensis* subsp. nov.

♂. Is larger than *t. testacea* and duller in colour; the hindwings strongly washed with grey.

Length of forewing: 19 mm.

*Hab.* St. Aignan, Louisiade Islands, October 1897 (A. S. Meek).

50. *Ilema sericeoalba* sp. nov.

♀. Antennae dull brown; head buff; thorax cream-white, tegulae buff; abdomen creamy grey, last three segments buff.—Forewing satiny cream-white.—Hindwing cream-buff.

Length of forewing: 19 mm.

*Hab.* Ganden, Aschabad, Kopet Dagh.

51. *Ilema testaceoflava* sp. nov.

♂. Entirely orange-buff; abdomen and hindwings slightly paler.

♀. Entirely lemon-buff, slightly darker on forewing on and below vein 1.

Length of forewing: ♂ 13.5 mm.; ♀ 15 mm.

*Hab.* Kumasi River, N.E. British New Guinea, June 1907 (A. S. Meek).

52. *Ilema niveata* sp. nov.

♀. Antennae whitish brown; head grey; thorax and abdomen greyish white. —Forewing satiny snow-white, costal edge convex yellow. —Hindwing semihyaline snow-white.

Length of forewing: 18 mm.

*Hab.* Angabunga River, affl. of St. Joseph's River, British New Guinea, 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

53. *Ilema aurantioflava* sp. nov.

♀. Antennae pale brown; head and thorax orange-buff; abdomen yellowish grey, yellow on sides and end of last two segments. —Forewing orange-buff. —Hindwing semihyaline yellowish buff.

Length of forewing: 15 mm.

*Hab.* Tambora, Sumbawa, 2500—4000 ft., April—May 1896.

54. *Ilema ligneofusca* sp. nov.

♀. Head and tegulae orange; thorax and abdomen wood-grey. —Forewing pale wood-brown. —Hindwing pale buff.

Length of forewing: 15 mm.

*Hab.* Astrolabe Bay, German New Guinea (C. Wahnes).

55. *Ilema brunneotincta* sp. nov.

♀. Head, antennae, and thorax pale chocolate grey-brown; abdomen yellowish brown-grey. —Hindwings semihyaline yellowish buff-grey.

Length of forewing: 24 mm.

*Hab.* Foot of Nieuwveld Mountains, N.W. of Beaufort West (Mrs. Butt).

56. *Ilema transfasciata* sp. nov.

♂. Antennae pale brown; head and thorax orange-buff; abdomen dirty buff. —Forewing cream-colour, outer quarter maize-yellow; a narrow basal, a broad antemedian and two broad postmedian transverse black bands, the outermost interrupted above vein 6 at the point where the scent-organ on underside of wing ends. —Hindwing buff.

♀ similar but larger, and has a second antemedian black band.

Length of forewing: ♂ 13 mm., ♀ 18 mm.

*Hab.* Upper Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., August 1910 (A. S. Meek).

57. *Ilema unifascia* sp. nov.

♂. Antennae black; head orange; thorax fuscous grey, tegulae, base of patagia, and posterior borders orange; abdomen sooty grey tinged with buff. —Forewing sooty grey-brown, a dark sooty grey postmedian transverse bar, base of wing and costal edge orange. —Hindwing buff.

Length of forewing: 16.5 mm.

*Hab.* Kumusi River, North-East British New Guinea, July 1907 (A. S. Meek).

58. *Ilema quadripunctata* sp. nov.

♂. Antennae pale rufous; head orange, thorax rufous testaceous; abdomen greyish orange-buff, anal tuft brighter.—Forewing rufous testaceous, a black spot on costa and one below it on median fold.—Hindwing dark dingy buff.

Length of forewing: 16 mm.

*Hab.* Ogrugn, Niger.

59. *Bitecta flaveola* sp. nov.

♂. Head, antennae and thorax orange-buff; abdomen greyish buff.—Forewing buff, costal area orange-buff.—Hindwing buff.

♀. Similar. Another male is entirely pale cream-buff.

Length of forewing: ♂ 14 mm., ♀ 13 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

60. *Calamidia irrorata* sp. nov.

♂. Antennae rufous; head and thorax yellowish grey, freckled with brown; abdomen pale grey, two last segments yellow.—Forewing yellowish buffy grey freckled and washed with brown, a postdiscal sinuous transverse brown bar.—Hindwing semihyaline cream-grey, somewhat obscurely freckled with brown in outer part of costal half of wing.

♀. Larger and paler, with hindwing greyer.

In another ♂ the postdiscal bar is almost obsolete.

Length of forewing: ♂ 13 mm., ♀ 15 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

61. *Calamidia warringtonella warringtonella* B. Baker.

♂. Antennae brown; head orange; thorax dark brownish grey, tegulae and base of patagia orange; abdomen grey, anal tuft buffish.—Forewing cream-colour with metallic gloss, whole area below median vein almost to inner margin grey-brown, becoming narrower from end of basal half to termen, where dark colour is confined between veins 3 and 5.—Hindwing mouse-grey, fringe and abdominal area whitish grey.

♀ larger; the dark area of wing reduced below median vein, and ground colour of forewing white.

Length of forewing: ♂ 15 mm., ♀ 21 mm.

*Hab.* Southern and North-Eastern slopes of Owen Stanley Mountains, British New Guinea.

62. *Calamidia warringtonella goliathina* subsp. nov.

♂. Differs in its larger size and yellower ground colour of forewing.

♀. Differs in the less pure, more creamy white ground colour of forewing.

Length of forewing: ♂ 19 mm., ♀ 19.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

63. *Calamidia castanea* sp. nov.

♀. Antennae brown; head and tegulae yellowish brown; thorax chocolate; abdomen mouse-grey.—Forewing chocolate, clouded with chestnut and washed with purple, a streak along median fold to tornus black freckled with white. Hindwing semihyaline grey.

Length of forewing: 18 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

64. *Calamidia reticulata* sp. nov.

This is an extremely variable insect, and in my large series no two specimens are quite alike; the following ♂ ♀ appear most typical.

♂. Head cream-buff, palpi black, antennae brown; thorax testaceous pale brown; abdomen cream-buff, anal tuft yellow.—Forewing chestnut brown irrorated with buff, and with a broad whitish buff flare between vein 1 and median vein from base to two-thirds the length of the wing, a dark brown spot at the end of the flare.—Hindwing buff.

♀ larger and paler.

Other ♂♂ have forewings and thorax much darker brown and the reticulations and flare much reduced or entirely absent, and hindwings salmon-buff. ♀♀ are either much paler, and the reticulations and flare much increased, or uniform brown with greyish buff hindwings.

Length of forewings: ♂ 20 mm., ♀ 23—25 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February—April 1906 (A. S. Meek) (type); Angabunga River, affl. of St. Joseph's River, British New Guinea, 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

65. *Monosyntaxis affinis* sp. nov.

♀. Closely allied to *trimaculata* Hamps. Head orange, antennae black; thorax steel-green, tegulae and outer two-thirds of patagia orange; abdomen dark sooty grey, sides of last three segments yellow.—Forewing above median vein orange; basal two-thirds of costal area and wing below median brownish purple with steel-green reflections.—Hindwing orange-buff.

Length of forewing: 22 mm.

*Hab.* Gunong Ijan, Malay Peninsula.

66. *Monosyntaxis persimilis* sp. nov.

♂. Very similar to *M. bipunctata* B. Baker, which occurs with it. Differs at first sight by having strongly pectinated antennae instead of serrated ones. The frons is black, **not** dark orange, vertex, tegulae, and patagia dark buff, **not** reddish orange, metallic blue spot on patagia almost absent, and patches on thorax indistinct, and dirty grey, **not** metallic blue; abdomen cream-white, **not** pale buff and orange, an anal tuft confined to tip. Wings much larger and hindwing rounder. The two spots on forewing dark brown, **not** steel-blue, the outer one much smaller and the inner one a narrow half-moon, **not** a broad half-globular patch.

Length of forewing: *persimilis* 21 mm., *bipunctata* 19 mm.

Breadth of hindwing: „ 12½ mm. „ 9½ mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).



67. *Oeonistis lifuensis* sp. nov.

♂. Antennae brown ; head and thorax buff, tip of patagia and large patch on metathorax steel-green ; abdomen orange-buff.—Forewing buff with satiny sheen ; costa for three-fourths its length a median transverse band double as wide below median vein as above it, and a subterminal central patch metallic bright steel-blue.—Hindwing yellowish orange-buff.

♀ paler.

Length of forewing : ♂ 16.5 mm. ♀ 21 mm.

*Hab.* Lifu, Loyalty Islands.

68. *Oeonistis aurifera* sp. nov.

♂. Antennae sooty brown, frons black ; vertex and thorax orange-buff with a metallic sheen ; abdomen buff.—Forewing metallic golden buff ; a spot near base of inner margin, a large discal patch, and basal two-thirds of costal area metallic steel-blue.—Hindwing maize-buff.

Length of forewing : 21 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

69. *Oeonistis metallescens* sp. nov.

♂. Antennae brown ; frons black, vertex metallic golden buff ; thorax metallic golden buff with brownish purple patch, abdomen whitish buff, last two segments and anal tuft maize-yellow.—Forewing silvery white ; basal half below median vein pale metallic golden buff surrounded on three sides by a broad brownish purple band which on basal third of wing includes costa and extends in centre in a broad wedge almost to termen.—Hindwing buff.

♀ Larger and paler.

Length of forewing : ♂ 19 mm., ♀ 24 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

70. *Oeonistis bistrigata* sp. nov.

♂. Palpi scarlet ; head grey with median band of dirty buff, antennae grey-brown ; thorax slate-grey with greenish metallic sheen, tegulae buff with scarlet edges and slate grey median band, patagia buff ; legs scarlet, front of fore and middle tibiae satiny greenish grey ; thorax orange-buff.—Forewing golden metallic buff tinged or washed with brownish, a broad band along basal two-thirds of costa and an oblique broad elbowed discal band from basal third of inner margin to two-thirds length of vein 4 metallic steel-green glossed with purple.—Hindwing orange-buff.

Length of forewing : 26 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

71. *Disoidemata lactea* sp. nov.

♂. Head yellowish white ; thorax and abdomen brownish sooty grey, anal tuft yellowish.—Forewing yellowish cream-white with some scattered sooty dots ; a subbasal streak and an antemedian somewhat obsolete transverse line

brown, a row of black patches on costa and apex and one on termen.—Hindwing, basal four-fifths white, rest grey.

♀. Similar, but forewings white and more black spots on termen.

Length of forewing : ♂ 7 mm., ♀ 5·5 mm.

*Hab.* Rio Huacamay, Carabaya, Peru, 3100 ft., dry season, June 1904 (G. R. Ockenden).

72. *Disoidemata maculata* sp. nov.

♂. Antennae yellowish grey ; head and thorax creamy pearl-grey ; abdomen sooty grey, anal tuft paler.—Forewing yellowish creamy pearl-grey ; a broad subbasal transverse chocolate band glossed with steel-blue, a similarly coloured spot at apex of cell, and one beyond it, several grey waved transverse hairlines on disc, a chocolate incurved subterminal band from vein 7 to tornus.—Hindwing mouse-grey.

♀. Smaller and chocolate markings much reduced, the subbasal band to two spots and the spot at apex of cell absent, while subterminal band is much narrower.

Length of forewing : 6·5 mm.

*Hab.* Rio Huacamay, Carabaya, Peru, 3100 ft., dry season, June 1904 (G. R. Ockenden).

73. *Mintopola sordida* sp. nov.

♂. Antennae testaceous ; head and thorax dirty testaceous brown ; abdomen brownish grey-buff.—Forewing cream-white tinged with dirty buff ; a dirty brownish smear from base to termen below vein 1, an oblique median brown band from median vein to inner margin.—Hindwing cream-white.

♀ has entire forewing dirty greyish cream.

Length of forewing : ♂ 17 mm., ♀ 19·5 mm.

*Hab.* Monte Tolima, Colombia, 3500 metres, February 1910 (A. H. Fassl).

74. *Agylla bisecta* sp. nov.

♀. Antennae brown, palpi rufous, head buff ; thorax and abdomen slate-grey, an orange-buff ring on last segment.—Forewing pale buff obliquely from base to termen at vein 2, rest of wing slate-grey.—Hindwing pale buff.

Length of forewing : 22 mm.

*Hab.* Kina Balu, North Borneo.

75. *Agylla alboluteola* sp. nov.

♂. Frons and antennae black ; vertex and thorax creamy white, abdomen buffish yellow.—Forewing cream-white ; a broad transverse postmedian band irregular on outer side steel-green with purple gloss, fringe of termen from apex to vein 2 and costal edge brown-black.—Hindwing buffish yellow, costal area cream-buff, a postdiscal sooty black patch on and above veins 2 and 3.

Length of forewing : 24 mm.

*Hab.* Khasia Hills, Assam (Native coll.).

76. *Agylla rubrofasciata* sp. nov.

♂. Antennae rufous ; frons dull crimson, vertex black ; thorax blackish slate-grey, basal two-thirds of tegulae and outer half of patagia dull crimson, abdomen orange-buff.—Forewing, obliquely from base to below vein 3 maize-yellow with

satiny sheen, rest of wing blackish slate-grey, a broad cinnabar red band along basal two-thirds of median fold.—Hindwing buffish cream.

♀ duller-coloured.

Length of forewing: ♂ 23 mm., ♀ 25 mm.

*Hab.* Oconoque, Carabaya, Peru, 7000 ft., dry season, July 1904 (G. R. Oekenden).

77. *Agylla pseudobisecta* sp. nov.

At first sight this species might be taken for the ♂ of *bisecta*, but its greyish buff abdomen at once distinguishes it, as well as the less extent of dark colour on lower half of forewing.

♂. Antennae rufous; head and thorax sooty brown-grey; abdomen grey-buff, last two segments orange-buff.—Forewing pale buff, lower half of wing purple-brown below vein on basal third of wing and to just above vein 2 on outer two-thirds.—Hindwing semihyaline whitish buff.

Length of forewing: 23 mm.

*Hab.* Monte Tolima, Colombia, March 1910 (A. H. Fassl).

78. *Agylla semidivisa* sp. nov.

♀. Antennae orange-brown; frons buff, vertex slate-grey; thorax slate-grey, tegulae orange; abdomen, basal half slate-grey, apical half orange-buff, sides orange-buff.—Forewing pale cream-buff above vein 1, with satiny sheen; basal two thirds of costal edge orange; below vein 1 purplish mouse-grey.—Hindwing sericeous cream-buff.

Length of forewing: 19 mm.

*Hab.* Ciudad de Tucuman, 450 metres, January 1902 (Dinelli).

79. *Agylla extensa* sp. nov.

♀. Very narrow and drawn out. Head, antennae, thorax, and abdomen brownish ash-grey.—Forewing silky white, greyish brown on basal two-fifths below median vein, diminishing along vein 2 to tornus.—Hindwing greyish silky white.

Length of forewing: 20 mm.

*Hab.* Rio Inambari, Carabaya, Peru, 6000 ft., November 1901 (G. R. Oekenden).

80. *Agylla flavicornis* sp. nov.

♂. Antennae brownish orange; vertex orange, frons sooty black; thorax slate-grey, tegulae and patagia whitish buff, edged apically with slate-grey; abdomen orange-buff.—Forewing above vein 1 white with strong satiny sheen, costal edge yellow; below vein 1 blackish slate-colour.—Hindwing white, somewhat stained with brownish grey about apex.

Length of forewing: 16 mm.

*Hab.* La Oroya, Rio Inambari, Peru, 3100 ft., dry season, September 1904 (G. R. Oekenden).

81. *Agylla albotestacea* sp. nov.

♂. Antennae yellowish grey; head and thorax testaceous grey; abdomen buffish grey; anal tuft yellowish.—Forewing above median fold white washed

with buff on costal area ; below median fold testaceous brownish grey.—Hindwing testaceous buff.

Length of forewing : 16 mm.

*Hab.* Petropolis, Province Rio Janeiro, Brazil.

82. *Agylla postimparilis* sp. nov.

♂. Head, thorax, and abdomen buffish grey.—Forewing white above vein 1, wood-grey below vein 1.—Hindwing very pale cream-buff.

♀ has area below vein 1 on forewing much paler, and hindwing pure white.

Length of forewing : ♂ 12 mm., ♀ 13.5 mm.

*Hab.* Petropolis, Province Rio Janeiro, Brazil.

83. *Areva albogrisea* sp. nov.

♂. Antennae fuscous ; head and thorax greyish white ; abdomen mouse-grey.—Forewings brownish grey with satiny sheen ; an irregular interrupted broad median transverse band white, prolonged towards tornus and upper part of termen ; a few whitish spots on termen.—Hindwing mouse-grey, basal third paler.

Length of forewing : 14.5 mm.

*Hab.* Santo Domingo de los Colorados, West Ecuador, October 1898 (W. Goodfellow).

84. *Pasteosia albescens* sp. nov.

♀. Antennae brown ; head white ; thorax and abdomen whitish grey.—Forewing greyish white irrorated with ash-grey ; a dark dot at base of, and two at apex of cell ; three indistinct obsolescent transverse bars of grey in outer two-fifths.—Hindwing pale creamy grey.

Length of forewing : 12.5 mm.

*Hab.* Angabunga River, affluent of St. Joseph's River, British New Guinea, 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

85. *Palaeosia plagiata* sp. nov.

Varies in the denseness of the brown irroration and size of discal patch.

♂. Antennae rufous ; head frons buff ; vertex buff saturated with pale brownish maroon ; thorax buff densely irrorated with brownish maroon ; abdomen cream, anal tuft buff.—Forewing cream-buff densely irrorated with pale brownish maroon, a discal patch below median fold, and a crescent at end of cell chocolate.—Hindwing cream.

Another ♂ has the irrorations on forewing so dense and coalescing that very few traces of the creamy buff ground colour are visible ; a third is normal in colour, but the discal patch is reduced to a small spot and the crescent to a dot.

♀. Much larger, and has on forewing a broad band free of dark irrorations running from base of forewing to the discal patch. A ♂ shows this also in a less degree.

Length of forewing : ♂ 19 mm., ♀ 26 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

86. *Josiodes suapurensis suapurensis* subsp. nov.

♂. Head and antennae black; thorax deep orange; abdomen black; sides of basal segment orange.—Forewing, basal two-thirds obliquely deep orange; costal and inner margins and apical third black; an orange band placed obliquely in centre of black apical third.—Hindwing deep orange with broad black borders; the black colour runs up in a streak through abdominal area to base, and more obsolescently in a streak along upper edge of cell.

♀. Differs in being larger; the orange is purer, the inner margin of forewing is orange, **not** black; the margin of hindwing is narrower and does not emit streaks into wing, and the abdomen is orange with central black line on anal segment.

Length of forewing: ♂ 17 mm., ♀ 20 mm.

*Hab.* Suapure, Venezuela, July 16, 1899 (S. M. Klages).

87. *Josiodes suapurensis intensus* subsp. nov.

♀. Differs from *s. suapurensis* in the more intense reddish orange colour, in the orange band on apex of forewing being much obscured with black, and in the thorax being black.

*Hab.* Saranacca River, Surinam, May 1893 (W. Ellacombe).

88. *Josiodes quadrifascia* sp. nov.

♀. Antennae black, pectinated; head and thorax black; abdomen black with dirty orange sublateral bands.—Forewing black, a broad oblique discal and a smaller subapical one deep orange.—Hindwing black.

Length of forewing: 19 mm.

*Hab.* Chiriqui, Panama.

89. *Josiodes nigrobasalis* sp. nov.

♀. Antennae, head, and thorax black; abdomen orange; a broad hourglass-shaped dorsal band, and last two segments black.—Forewing, basal and apical thirds black, median third deep orange, which runs up in a narrow streak to the base; an orange band in apical third.—Hindwing black; basal three-fourths of abdominal margin broadly orange; an orange spot somewhat obscured with black scales at base of vein 3.

Length of forewing: 23 mm.

*Hab.* Potaro, British Guiana.

90. *Josiodes fasciata* sp. nov.

♀. Antennae black; head orange; thorax black; inner half of patagia orange; abdomen black; lateral bands orange.—Forewing black; a broad band from base between median vein and vein 1 to vein 2 orange; a transverse oblique orange postdiscal band from subcostal vein almost to termen above vein 3.—Hindwing black; abdominal area to beyond tornus broadly orange; fringe orange.

Length of forewing: 15 mm.

*Hab.* San Esteban, Venezuela, June 1909 (S. M. Klages).

91. *Cisthene argentinensis* sp. nov.

♂. Antennae and head black; thorax black, tegulae yellow-buff; abdomen yellow buff, basal and anal segments and dorsal line black.—Forewing black, a median transverse band and two subterminal patches buff.—Hindwing, basal two-thirds yellow-buff, rest black.

♀ similar, but larger.

Length of forewing: ♂ 14 mm., ♀ 18.5 mm.

*Hab.* Salta, North Argentina, February 1905 (J. Steinbach) (type); Tucuman Argentina, 900—1300 metres (= 2948—4258 ft.), February 1904 (J. Steinbach).

92. *Cisthene major* sp. nov.

♀. Intermediate between *prusias* and *mena* and generally confounded with these two species. Antennae black; head, thorax and abdomen orange.—Forewing blackish slate-grey, a discal broad band and a subapical narrow curved one buffish orange.—Hindwing, basal three-fifths buffish orange, rest black.

Length of forewing: 25 mm.

*Hab.* Probably Andes of South America, or Chiriqui.

93. *Onychipoda curta* sp. nov.

Very short-winged and truncated in appearance.

♂. Antennae brown; head orange; thorax greyish wood-brown; abdomen orange-buff.—Forewing yellowish ash-grey with silky sheen, costal margin broadly bright orange.—Hindwing pale greyish cream-buff.

Length of forewing: 16 mm.; breadth, 8 mm.

*Hab.* Bihé, Angola.

94. *Onychipoda elongata* sp. nov.

♂. Differs from last in having much longer and narrower wings and the fringes golden.

Length of forewing: 20 mm.; breadth, 6.5 mm.

*Hab.* Nairobi, British East Africa (F. J. Jackson).

95. *Onychipoda bimarginata* sp. nov.

♂. Antennae brown; head orange; thorax ash-grey, tegulae buff edged with deep orange; abdomen sooty black, each segment edged with orange-buff, two basal segments brown-buff.—Forewing pale slate-grey with satiny sheen, terminal and inner margins buffish yellow; costal margin double, costa black, space between costa and subcosta cream-white.—Hindwing silky dark buff.

Length of forewing: 20 mm.; breadth, 7 mm.

*Hab.* Nairobi, British East Africa, April 1905 (Jackson).

96. *Onychipoda flavithorax* sp. nov.

♀. Head and thorax deep orange; abdomen slate-grey, each segment narrowly edged with orange-buff.—Forewing sericeous silvery cream-grey, costa orange, fringe yellow.—Hindwing pale cream-buff, fringe yellow.

Length of forewing: 20 mm.; breadth, 10 mm.

*Hab.* Cubal River, Angola, March 1899 (Penrice).

97. *Manoba rufotincta* sp. nov.

♂. Antennae brown; head white; thorax greyish wood-brown, basal half of tegulae and basal fourth of patagia white; abdomen cream-buff.—Forewing cinnamon grey; basal two-fifths of costal area greyish white, outer three-fifths rufous chestnut; an irregular indistinct submedian patch of rufous blackish grey streaks between median vein and inner margin, a transverse row of blackish dots one-fourth from termen, and a terminal indistinct row of reddish spots.—Hindwing greyish cream-buff washed on outer fourth with cinnamon grey.

Length of forewing: 10.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek) (type); Biagi, Mambare River, British New Guinea, January 1906 (A. S. Meek).

98. *Manoba lactogrisea* sp. nov.

♂. Antennae dark grey; head and thorax cream-white; abdomen mouse-grey, anal tuft whitish.—Forewing whitish cream; a postmedian wedge-shaped grey patch runs from costa to vein 4 and prolonged along costa half-way to base with two yellow spots at its apex; a transverse indistinct line close to this patch and between the yellow spots runs from costa to inner margin; two subapical dark grey patches and one at tornus, a terminal dark line.—Hindwing pale mouse-grey.

Length of forewing: 10 mm.

*Hab.* Upper Setekwa River, Snow Mountains, Dutch New Guinea, 2000—3000 ft., August 1910 (A. S. Meek).

99. *Manoba albina* sp. nov.

♀. Antennae whitish; head and thorax snow-white; abdomen whitish grey.—Forewing white with a number of obsolescent smears of dirty brown, a sub-basal angled bar in costal area and three brownish blotches between it and apex, fringe grey.—Hindwing snow-white.

Length of forewing: 7.5 mm.

*Hab.* Angabunga River, affl. of St. Joseph's River, British New Guinea, 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

100. *Manoba terminalis* sp. nov.

♂. Antennae grey, head white; thorax mouse-grey, tegulae white; abdomen silver grey.—Forewing white; basal two-thirds of costal area and large patch in basal third between median fold and inner margin dark grey, a grey subterminal broad band, apex and terminal band maroon brown with patches of grey scales.—Hindwing pale mouse-grey.

Length of forewing: 8 mm.

*Hab.* Kumusi River, N.E. British New Guinea, June 1907 (A. S. Meek) (type); Upper Setekwa River, Snow Mountains, Dutch New Guinea, 2000—3000 ft., August 1910 (A. S. Meek).

101. *Manoba grisescens* sp. nov.

♂. Head, antennae, thorax, and abdomen mouse-grey.—Forewing whitish grey with transverse bandlike smears of brownish grey, terminal band dark grey.—Hindwing pale mouse-grey.

Length of forewing: 6.5 mm.

*Hab.* Milne Bay, British New Guinea, February 1899 (A. S. Meek).

102. *Manoba alboplagiata* sp. nov.

♀. Antennae whitish; head and thorax white; abdomen whitish grey.—Forewing iridescent yellowish grey with indistinct greyish brown markings; basal half of wing below median fold and apical half above vein 3 occupied by large snow-white patches.—Hindwing French grey.

Length of forewing: 7 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

103. *Garudinodes affinis* sp. nov.

Allied to *albomaculata* B. Baker.

♂. Antennae yellowish brown; head snow-white; thorax chocolate rufous, apical two-thirds of patagia and patch on mesothorax snow-white. Abdomen yellowish liver-brown.—Forewing chocolate liver-brown with the usual large patch of rough hair on basal half of wing, apical and terminal margins and two patches on costal half of basal two-thirds of wing snow-white.—Hindwing cinnamon yellowish brown, a band of chocolate liver-brown along abdominal area with central white patch, fringe at torus white.

♀ without patch of rough hair; differs from ♂ in the whole thorax and abdomen being chocolate rufous brown.—Forewing chocolate rufous brown, a basal, median, and postmedian transverse band, apex, and upper two-thirds of termen white.—Hindwing chestnut liver-brown.

Length of forewing: ♂ 10.5 mm., ♀ 9 mm.

*Hab.* Haidana, Collingwood Bay, British New Guinea, April 1907 (A. S. Meek).

104. *Garudinodes castaneus* sp. nov.

♂. Antennae brown; head and thorax deep chestnut brown; abdomen slightly paler.—Forewing deep chestnut brown with large patch of rough hair; a median streak in costal area and an almost concealed patch at apex of pad of rough hair dirty white.—Hindwing liver-chestnut, darker on abdominal fold.

Length of forewing: 10 mm.

*Hab.* Haidana, Collingwood Bay, British New Guinea, April 1907 (A. S. Meek).

105. *Garudinodes recurviloba* sp. nov.

♂. Antennae brown; head canary yellow; thorax, tegulae and front half canary yellow, patagia and hind half dull chocolate; abdomen yellowish grey.—Forewing, basal two-thirds greyish cream with inner margin canary yellow, outer third chocolate brown with two irregular patches of canary yellow; the basal half of costa is produced into an enormous lobe which is recurved concealing the basal half of forewing to vein 1; this lobe is bright chocolate with a satiny sheen.—Hindwing semihyaline greyish cream washed with brown on outer half.

♀. Much smaller than the male and without the costal recurved lobe. Forewing metallic golden yellow, with basal, median and termino-apical patches rufous chocolate; the median patch only reaches to median fold.

Length of forewing: ♂ 12 mm. (size of lobe 6 × 3 mm.), ♀ 9 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).



106. *Garudinia bimaculata* sp. nov.

♂. Antennae pale brown; head and thorax cream; abdomen slate grey, anal tuft yellowish.—Forewing cream, a large ovate patch in and below cell to inner margin and a postmedian broad band brownish slate-colour.—Hindwing, costal half pale grey, rest mouse-grey.

♀ similar, but ovate discal patch smaller.

Length of forewing: ♂ 8 mm., ♀ 7 mm.

*Hab.* Labnan, North Borneo, July 1891 (A. Everett).

107. *Garudinia biguttata* sp. nov.

♂. Allied to *bimaculata*. Antennae brownish; head and thorax cream-white; abdomen mouse-grey.—Forewing cream-white with two large blackish olive patches.—Hindwing sharply truncated and deeply excised at apex, a large terminal lobe between central fold and vein 4, basal half semihyaline pale grey, rest mouse-grey.

Length of forewing: 10 mm.

*Hab.* Khasia Hills, Assam, November 1895 (Native collectors). This is very close to *biplagiata*.

108. *Garudinia aureopurpurata* sp. nov.

♂. Head, antennae, and thorax golden yellow; abdomen buff.—Forewing golden yellow; two large purple patches, the inner one **almost** occupying basal half of wing.—Hindwing cream-buff, fringe and apex darker.

Length of forewing: 8 mm.

*Hab.* Haidana, Collingwood Bay, British New Guinea, April 1907 (A. S. Meek).

109. *Garudinia cupreifascia* sp. nov.

♀. Antennae brown; head greyish white; thorax coppery purple, tips of patagia and spot on hind part cream-white; abdomen pale grey, anal tuft enormous, pale wood-brown.—Forewing milk-white, an antemedian and a postmedian curved transverse band metallic copper colour.—Hindwing semihyaline creamy buff, very pale.

Length of forewing: 11.5 mm.

*Hab.* Tambora, Sumbawa, 2500—4000 ft., June 1896 (W. Doherty).

110. *Garudinia bizonata* sp. nov.

♂. Antennae brown; head white; thorax chocolate purple; tegulae, a spot in front and behind, and tips of patagia white; abdomen greyish cream.—Forewing snow-white; antemedian and postdiscal transverse oblique bands dark bronzy copper-colour, the latter somewhat serpentine.—Hindwing greyish cream-white.

Length of forewing: 11 mm.

*Hab.* "Parana, Entre Rios:" the locality is presumably erroneous.

111. *Garudinia bifasciata* sp. nov.

♂. Antennae brown; head and thorax white, base of patagia and centre of thorax liver-brown; abdomen brownish cream.—Forewing white; an oblique

antemedian and waved postdiscal transverse bands liver-chestnut.—Hindwing whitish cream.

Length of forewing : 10·5 mm.

*Hab.* Penungah, North Borneo, December 30, 1893.

112. *Garudinia excisa* sp. nov.

♂. Head, antennae, and thorax pale claret-purple; abdomen pale wood-brown, anal tuft yellow.—Forewing excised at and beyond middle of costa pale claret-purple; a large discal patch, widest at inner margin, narrowest at median vein, olivaceous gallstone-yellow; a yellow elongated spot at excised part of costa.—Hindwing yellowish grey-brown.

Length of forewing : 9 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

113. *Garudinia trifasciata* sp. nov.

♂. Antennae brown; head and thorax golden yellow, apical half of patagia and hind part of thorax purplish chestnut; abdomen buffy grey-brown.—Forewing golden yellow, three oblique purple bands with strong metallic blue gloss.—Hindwing semihyaline buff.

Length of forewing : 8·5 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

114. *Padenia sordida* sp. nov.

♀. Head and antennae dirty brownish white; thorax and abdomen slate-grey, anal tuft large, brownish white.—Forewing dirty brownish white, an antemedian curved and a postmedian angulated transverse narrow bar dull liver-brown.—Hindwing pale mouse-grey.

Length of forewing : 12·5 mm.

*Hab.* Gunong Ijau, Malay Peninsula.

115. *Padenodes bizone* sp. nov.

♂. Antennae brown; head and thorax snow-white, apical half of patagia and large patch on thorax pale liver-brown; abdomen wood-brown.—Forewing snow-white; median and subapical oblique transverse bands golden bronze, the median very wide on inner margin, narrowing suddenly at median fold.—Hindwing snow-white, with outer margin brownish mouse-grey.

Length of forewing : 8·5—9·5 mm.

*Hab.* Haidana, Collingwood Bay, British New Guinea, April 1907 (A. S. Meek).

116. *Padenodes violinitens* sp. nov.

♂. Antennae brown; head and thorax snow-white, central three-fifths of patagia and hind part of thorax coppery brown; abdomen black-brown.—Forewing, basal two-thirds snow-white; an oblique median transverse band and apical third of wing metallic coppery purple, a curved subapical line white.

—Hindwing, basal three-fourths snow-white, somewhat semihyaline, rest sooty grey.

Length of forewing: 8 mm.

*Hab.* Kumusi River, N.E. British New Guinea, May 1907 (A. S. Meek).

117. *Padenodes unifascia* sp. nov.

♂. Antennae brown; head snow-white; thorax pale maroon chestnut; tegulae, basal half of patagia, and front of thorax snow-white; abdomen buff.—Forewing snow-white; costa yellow; oblique median band, a spot below cell, and terminal margin above vein 1 maroon chestnut.—Hindwing buff.

Length of forewing: 10.5—11.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).

118. *Padenodes plagosus* sp. nov.

♂. Antennae dark brown; head frons buff; vertex snow-white; thorax olive-grey; tegulae and basal half of patagia snow-white; abdomen buff.—Forewing creamy white; costa yellow, basal half edged with black; two antemedian patches and one on termen olive-grey; a postmedian indistinct transverse cloudlike band brownish grey.—Hindwing buff.

Length of forewing: 10 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

119. *Padenodes bifasciatus* sp. nov.

♂. Antennae pale brown; head and thorax snow-white; basal half of patagia and centre of thorax metallic bronzy golden; abdomen greyish white; anal tuft buff.—Forewing snow-white; an oblique antemedian transverse band and a postmedian oblique waved band metallic bronze golden.—Hindwing creamy white.

Length of forewing: 12.5 mm.

*Hab.* Upper Aroa River, British New Guinea, January 1903 (A. S. Meek).

120. *Macaduma fuliginosa* sp. nov.

♀. Entirely fuliginous black-brown, an indication of a rufous line round apex. The costa of forewing much arched and apex excised.

Length of forewing: 9.5 mm.

*Hab.* Kumusi River, N.E. British New Guinea, July 1907 (A. S. Meek).

121. *Macaduma foliacea* sp. nov.

♂. Antennae brown; head and thorax chestnut; abdomen sooty grey; anal tuft yellowish.—Forewing resembling dead oak-leaf chestnut; a broad postmedian transverse band and a wedge-shaped terminal band darker, more dusky; between these bands the wing is more yellowish chestnut.—Forewing abruptly truncated on outer third, and a lobe on middle of termen.—Hindwing, basal half cinnamon grey, outer half sooty grey.

♀ has forewing almost uniform chestnut.

Length of forewing: 9.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000 ft., March 1911 (A. S. Meek); Kumusi River, N.E. British New Guinea, August 1907 (A. S. Meek) (type).

122. *Macaduma pallicosta* sp. nov.

♂. Head and antennae dark cinnamon; thorax chocolate-brown; abdomen wood-brown.—Forewing, basal two-thirds chocolate-brown; apical third cinnamon merging into the chocolate of the basal portion; basal half of costal area above median vein cinnamon with rufous dot; apical half has costal edge paler cinnamon.—Hindwing mouse-grey; basal three-fourths of costal and abdominal areas whitish.

Length of forewing: 11 mm.

*Hab.* Mackay, Queensland.

123. *Macaduma rufocostalis rufocostalis* subsp. nov.

♂. Head, antennae, and thorax cinnamon chestnut; abdomen brownish mouse-grey.—Forewing cinnamon chestnut with rufous chestnut costal border; a minute sooty grey spot in centre of wing.—Hindwing mouse-grey; costal area yellowish grey.

Length of forewing: 9 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

124. *Macaduma rufocostalis reducta* subsp. nov.

♂. Differs from *r. rufocostalis* by the rufous costal margin being present only on the apical third of wing, in the more greyish tinge of the forewing, and in the uniform brown of thorax and abdomen.

*Hab.* Fergusson Island, D'Entrecasteaux Islands, November 1894 (A. S. Meek).

125. *Macaduma tortricoides* sp. nov.

♂. Antennae brown; head, thorax, and abdomen maroon brown.—Forewing maroon brown with scattered patches of metallic pale blue and pearl scales; apex more rufous, a large buffy yellow discal patch from costa to vein 4.—Hindwing orange golden edged with black-brown.

Length of forewing: 12 mm.

*Hab.* Upper Setekwa River, Snow Mountains, Dutch New Guinea, 2000—3000 ft., August 1910 (A. S. Meek).

126. *Macaduma castanea* sp. nov.

♂. Antennae brown; head and thorax brownish chestnut; abdomen wood-grey; anal tuft chestnut.—Forewing cinnamon chestnut; basal half washed with grey, and with a zigzag transverse fuscous line from median vein to inner margin.—Hindwing yellowish grey.

Length of forewing: 12 mm.

*Hab.* Kuranda, Cairns, Queensland (P. F. DoId).

127. *Macaduma castaneofusca* sp. nov.

♂. Head, antennae, and thorax chocolate-brown; abdomen yellowish fuscous grey.—Forewing greyish chocolate-brown densely clouded with darker chocolate, a chocolate angled line running from costal elbow to apex.—Hindwing brownish cream tinged with grey.

Length of forewing :

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

128. *Macaduma rufouibrata rufouibrata* subsp. nov.

♂. Antennae yellowish brown ; head and thorax bright chocolate ; abdomen wood-brown.—Forewing mauve-chocolate ; an oblique transverse antemedian deep chocolate bar, a white dot in cell, a zigzag curved postmedian deep chocolate transverse line, an indistinct transverse subterminal curved bar and a terminal line from apex to vein 4.—Hindwing rufescent yellow-grey.

♀ variable : three forms, one entirely chocolate-brown with dusky mouse-grey hindwing ; a second yellowish chestnut, showing traces of postmedian line, hindwing yellow-grey ; and the third chestnut-grey, forewing below vein 1 and outer third of wing dark chocolate, the bars and lines as in ♂, but more faint and indistinct, two grey dots and a black one in cell and much silver-grey scaling and clouding in outer third of wing.—Hindwing greyish cream washed with rufous.

Length of forewing : ♂ 14 mm., ♀ 17 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

129. *Macaduma rufouibrata indistincta* subsp. nov.

♂. Differs from *r. rufouibrata* in its generally smaller size and more indistinct and obsolete markings.

♀ much more irrorated with grey.

*Hab.* Angabunga River, affluent of St. Joseph's River, British New Guinea, 6000—6500 ft., November 1904—February 1905 (A. S. Meek).

130. *Macaduma castaneogriseata* sp. nov.

♀. Antennae brown ; head and thorax rufous chocolate irrorated with bluish scales ; abdomen greyish wood-brown.—Forewing rufous chocolate densely irrorated with bluish scales ; an antemedian irregular transverse line, two post-discal transverse parallel lines, and an indistinct subterminal line chestnut rufous.—Hindwing yellowish grey tinged with mauve.

Length of forewing : 17 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., January 1911 (A. S. Meek).

131. *Macaduma quercifolia* sp. nov.

♂. Head and antennae yellowish rufous cinnamon ; thorax purplish cinnamon-brown ; abdomen yellowish buff-brown.—Forewing with costa produced in hairy lobe beyond cell and a lobe on termen cinnamon-brown ; two darker oblique transverse lines run obliquely from inner margin, joining at base of hairy costal lobe.—Hindwing buff.

Length of forewing : 10 mm.

*Hab.* Biagi, Mambare River, British New Guinea, March 1906 (A. S. Meek).

132. *Macaduma lichenia* sp. nov.

♂. Antennae brown; head white; thorax deep maroon irrorated with white, tegulae and patagia white densely freckled with black scales.—Forewing resembles lichen-covered bark, excised below apex, costa concave on basal two-thirds, reddish cinnamon-brown irrorated with white-grey and maroon, more or less distinct ante- and postmedian transverse bands, basal fourth almost white.—Hindwing, basal half greyish buff, outer half pale greyish cinnamon-brown.

♀ larger; differs by strongly convex basal two-thirds of costa, which is deeply concave on outer third; basal half wood-brown irrorated with pale and dark markings, outer half brownish white, a large dark apical patch and one light zigzag transverse line and one dark one.—Hindwing dark mouse-grey; thorax dark brown; abdomen sooty mouse-grey.

Length of forewing: ♂ 9.5 mm., ♀ 11 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

133. *Byrsia latiplaga latiplaga* subsp. nov.

♀. Head, antennae, thorax, and abdomen black.—Forewing black, a large orange patch occupying the whole basal half of wing except basal seventh and costal area; a large orange rufous wedge-shaped patch in outer half of wing running from subcosta to tornus obliquely where it is narrowest.—Hindwing orange with a broad sooty black border and a broad sooty brown abdominal border.

♂ similar, but has the orange patch on forewing much smaller, and the margin of hindwing excised between tornus and vein 3. One ♂ has the orange patches on both wings reduced to one-third the size, and the rufous wedge in forewing very dark. I propose to call this ab. *reducta* ab. nov.

Length of forewing: ♂ 12 mm., ♀ 14 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft. October—December 1910; Biagi, Mambare River, 5000 ft., British New Guinea, February 1906 (A. S. Meek). (Type ♀.)

134. *Byrsia latiplaga pallidior* subsp. nov.

♂. Differs from *l. latiplaga* in having the orange patches yellow and the costal half of that one on hindwing buffish cream.

*Hab.* Ninay Valley, Central Arfak Mountains, Dutch New Guinea, 3500 ft., February and March 1909 (A. E. Pratt).

135. *Neoscaptia fascionitens* sp. nov.

♂. Antennae sooty brown-black; head, thorax, and abdomen deep steel-green blue, anal tuft sooty brown.—Forewing, basal fifth deep steel-green blue, rest of basal half of wing snow-white without black transverse margin, a postmedian steel-green blue broad transverse band edged with black followed by a large maroon-red patch, a subterminal bright steel-blue band, narrow terminal band and fringe black.—Hindwing, basal half semihyaline snow-white; tornal and abdominal areas and outer half dull black.

Length of forewing: 10 mm.

*Hab.* Biagi, Mambare River, 5000 ft., British New Guinea, February 1906 (A. S. Meek).

136. *Neoscaptia affinis* sp. nov.

♂. Very similar to preceding species.

Differs in having snow-white tegulae, and in the chestnut colour in forewing occupying the entire apical three-fifths, with quite narrow edging on inner side, and on termen of steel-blue and black; **not** being merely a large patch in a steel-blue area.

*Hab.* Biagi, Mambare River, 5000 ft., British New Guinea, February 1906 (A. S. Meek).

137. *Neoscaptia flavicaput* sp. nov.

♂. Antennae rufous; head dark sulphur-yellow; thorax and abdomen dark brown, tegulae dark sulphur-yellow.—Forewing rufous chestnut, strongly glossed with blue and purple; a large dark sulphur-yellow blotch on basal three-fifths of wing, reaching from subcostal vein to inner margin, a large scent-organ of long hairs on middle of costa.—Hindwing very hairy, sooty-brown, a large wedge-shaped yellow patch occupying costal half of basal two-thirds of wing.

Length of forewing: 8 mm.

*Hab.* Kunausi River, N.E. British New Guinea, May 1907 (A. S. Meek).

138. *Neoscaptia apicipuncta* sp. nov.

♂. Head and thorax steel-blue green; antennae and abdomen sooty black, anal tuft yellowish grey.—Forewing bright steel-green; a snow-white oblique antemedian wedge-shaped transverse band narrowest at costa, a postmedian large maroon-red patch, beyond which is a round white spot.—Hindwing: basal half snow-white, abdominal area and outer half dull black.

Length of forewing: 12 mm.

*Hab.* Biagi, Mambare River, 5000 ft., British New Guinea, March 1906 (A. S. Meek).

139. *Neoscaptia bimaculata* sp. nov.

♀. Head and thorax steel-green, antennae black, abdomen black, anal tuft greyish buff.—Forewing steel-green blue; a large irregular blotch-like transverse antemedian band white, a patch beyond cell white, a large maroon-red postmedian patch, and a white terminal spot between veins 3 and 4.—Hindwing black, basal two-fifths, except abdominal and tornal margins, semihyaline snow-white.

Length of forewing: 13 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

140. *Neoscaptia androconiata* sp. nov.

♂. This most extraordinary species has on the costal area an enormous scent-organ of androconia and bristles black and sandy, and another on the hindwing. Antennae dark brown; head and thorax dull steel-green; abdomen glossy black, anal tuft brown-grey.—Forewing: basal two-fifths sooty-black with scattered steel-green scales, a large snow-white patch on median nervure, outer three-fifths rufous chestnut glossed with copper, outer and costal margins coppery purple, inner margin below vein 1 sooty black.—Hindwing: basal half white, outer half sooty black with median patch of coppery-purple scales.

Length of forewing: 12.5 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

141. *Neoscaptia cupreonitens* sp. nov.

♀. Head and thorax steel-green, antennae brown, basal two-thirds of patagia white; abdomen deep black, anal tuft white.—Forewing: basal third metallic bright steel-green, a white spot on subcostal nervure and a smaller one above vein 1, outer two-thirds metallic coppery red glossed with blue on basal half, costal and terminal edges black.—Hindwing: basal half snow-white; outer half, abdominal and tornal areas deep black.

Length of forewing: 13.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

142. *Neoscaptia albicollis* sp. nov.

♂. Head steel-green, antennae brown; thorax steel-green, tegulae snow-white, abdomen black, anal tuft cream-white.—Forewing: basal fifth bright steel-blue concave on outside, a wide irregular white patch-like transverse antemedian band snow-white, a median band of deep brilliant steel-blue, outer half of wing coppery crimson-maroon edged with black.—Hindwing: basal half semihyaline snow-white, tornal area and outer half black.

♀. Duller, white on forewing replaced by whitish cream, steel-blue replaced by black, outer half of forewing dark chestnut.

Length of forewing: ♂ 11 mm., ♀ 12 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

143. *Neoscaptia basinitens* sp. nov.

♀. Head and thorax black glossed with dull steel-green, antennae black, tegulae white; abdomen black, anal tuft greyish buff.—Forewing: basal two-fifths bright steel-green blue, outer three-fifths coppery chestnut edged with black.—Hindwing: basal half white, outer half dull black.

Length of forewing: 11.5 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

144. *Scaptosyle plumosus* sp. nov.

♂. Head and antennae black; thorax black, tegulae and basal half of patagia golden yellow; abdomen black, anal tuft yellowish grey.—Forewing: base black, basal two-thirds of wing golden yellow followed by an indented black transverse band, outer third maroon chestnut edged with black.—Hindwing golden yellow, apex from costa to vein 3 black.

♀. Differs in the forewing in having the black band and margins wider and the chestnut darker and duller. On the hindwing the black forms the outer third of wing, narrowing to tornus. A huge cushion-like anal tuft.

Length of forewing: ♂ 13.5 mm.; ♀ 14.5 mm.

*Hab.* Kina Balu, North Borneo (J. Waterstradt).



145. *Scaptosyle bicolor* sp. nov.

♀. Head and antennae black; thorax dark orange-buff; abdomen dull black.—Forewing: basal three-fifths dark orange-buff, outer two-fifths black.—Hindwing dark orange-buff, widely bordered with black.

Length of forewing: 11.5 mm.

*Hab.* Padang Rengas, Malay Peninsula.

146. *Caprimima bipuncta* sp. nov.

♀. Head and thorax dark oily steel-green, antennae black-brown; abdomen black, anal tuft mouse-grey.—Forewing dark oily steel-green, a large square median snow-white patch below median vein reaching to inner margin, the inner corner just going into cell; a large dark maroon-chestnut patch in outer third of wing with a large white spot on each side of it.—Hindwing black, a large oval semihyaline white patch occupying three-fourths of basal half.

Length of forewing: 14 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

147. *Caprimima germana* sp. nov.

♀. Closely allied to preceding species, but forewing longer, narrower, and more pointed, and hindwing less round, more drawn out at tornus. Head, antennae, thorax, basal sixth of forewing, abdomen, and anal tuft deep black, with oily steel-green gloss.—Forewing: basal two-fifths except base snow-white, outer three-fifths black almost filled up by a large dark maroon-chestnut patch, a white spot at end of cell and a white subterminal dot on vein 5.—Hindwing: basal two-thirds snow-white, abdominal and tornal areas and outer third black.

Length of forewing: 13.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

148. *Caprimima coeruleomarginata* sp. nov.

♀. Head, antennae, thorax, and abdomen black.—Forewing: basal third steel-green washed with blue on outer part and crossed by a wide snow-white band; outer two-thirds maroon chestnut margined with dark metallic blue.—Hindwing black, a large oval white patch occupies outer half of basal two-fifths of wing.

Length of forewing: 12 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

149. *Caprimima imitatrix* sp. nov.

♀. Very puzzlingly close to preceding species. Head and thorax oily steel-green, antennae black, tegulae white; abdomen black, anal tuft yellowish grey.—Forewing: basal two-fifths oily steel-green with broad white transverse band, outer three-fifths rufous chestnut margined with black.—Hindwing deep black with large white patch in basal two-fifths.

Length of forewing: 13 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

150. *Caprimima unipunctata* spec. nov.

♀. Head and thorax steel-blue green, antennae black, tegulae white; abdomen black.—Forewing: basal two-fifths snow-white broadly margined at base and outer side with steel-blue green, apical three-fifths maroon chestnut edged with dark blue and with white subapical spot.—Hindwing: basal two-thirds obliquely snow-white, abdominal and terminal borders and apical third black.

Length of forewing: 11 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

151. *Caprimima peraffinis* sp. nov.

♀. Very similar to *unipunctata*, but larger, and lacks subapical spot. Head and thorax deep steel-blue, antennae black, base of patagia white; abdomen black with a few grey hairs in anal tuft.—Forewing: basal half snow-white broadly margined at base with steel-blue and outwardly narrowly with black; outer half chestnut edged with black.—Hindwing: median two-thirds somewhat wedge-shaped, snow-white, rest black; fringe between veins 1 and 3 grey.

Length of forewing: 13 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

152. *Caprimima postexpansa* sp. nov.

♀. This extraordinary species, though like many others in colour, has the hindwings expanded so much as to be larger than the forewings; the strange aspect is heightened by the fact that the hindwings are strongly rounded. Head and thorax oily steel-green, antennae black; abdomen black.—Forewing: basal two-fifths snow-white, except a waved outer transverse band outside the white and basal seventh, which are oily steel-green; outer three-fifths of wing maroon chestnut edged with black.—Hindwing black, a broad oblique transverse band beyond vein 1 reaching from costa almost to termen snow-white.

Length of forewing: 11.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., February 1906 (A. S. Meek).

153. *Caprimima fuliginosa* sp. nov.

♀. Head, antennae, thorax, and abdomen black, anal tuft buffy grey-white.—Forewing black; a broad antemedian ill-defined band white, a postmedian band 6.5 mm. wide maroon chestnut: the edges of both bands much powdered with black scales giving a sooty appearance.—Hindwing black, a white wedge-shaped patch in basal half of wing reaching from costa two-thirds across the wing towards torus; a maroon-chestnut patch much powdered with black near apex.

Length of forewing: 15 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

154. *Caprimima marginipuncta* sp. nov.

♀. Head, antennae, thorax, and abdomen sooty brown-black.—Forewing: basal two-fifths brown-black almost entirely covered by a large semihyaline snow-

white patch reaching from costa to vein 1; a wedge of chestnut surrounded by black runs into the white at apex of cell; outer three-fifths chestnut edged with brown-black, a white terminal spot on vein 3.—Hindwing: basal half obliquely semihyaline white; abdominal and tornal regions and outer half black, a dark chestnut spot at tornus.

Length of forewing: 18 mm.

*Hab.* Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3500 ft., October—December 1910 (A. S. Meek).

155. *Caprimima postvitrea* sp. nov.

♂. Head and antennae black; thorax black, tegulae orange-golden yellow; abdomen black, anal tuft white.—Forewing: basal two-fifths orange-golden yellow except basal seventh, which is black; outer three-fifths black, almost covered by a postmedian large dark maroon-chestnut patch.—Hindwing: basal half hyaline yellow, abdominal margin and outer half sooty black.

Length of forewing: 12 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

156. *Caprimima postnigra* sp. nov.

♂. Head and antennae black; thorax black, tegulae golden yellow; abdomen black, anal tuft dark grey.—Forewing: basal half golden-yellow with basal seventh black; outer half black, almost covered by a large postmedian chestnut patch.—Hindwings sooty black with traces of an apical chestnut spot.

♀ larger; differs by the tegulae being black with golden-yellow dot, and the presence of an orange-golden patch in cell of hindwing.

Length of forewing: ♂ 11 mm., ♀ 15 mm.

*Hab.* Mount Goliath, Central Dutch New Guinea, 5000—7000 ft., February 1911 (A. S. Meek).

157. *Caprimima coerulescens occidentalis* subsp. nov.

Differs from *c. coerulescens* in the much wider golden bands on both wings.

*Hab.* Rendova, Solomon Islands, February 1904 (A. S. Meek).

158. *Caprimima coerulescens insignis* subsp. nov.

Larger and brighter; differs from the other races of *coerulescens* in the much greater extent of yellow; in the hindwing it occupies three-quarters of wing, the whole apical quarter of forewing being black.

*Hab.* Vella Lavella, Solomon Islands, March 1908 (A. S. Meek).

159. *Caprimima pseudogelida* sp. nov.

♀. Differs at first sight from *gelida* in its much shorter and rounded wings; steel-blue tegulae with white dot, white median band of forewing extending beyond subcostal nervure, and the white band of forewing smaller and only reaching to fold above vein 1.

Length of forewing: 14.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).

160. *Caprimima aurantiomarginata* sp. nov.

♂. Head, frons, and antennae rufous orange, vertex liver-brown glossed with purple; thorax liver-brown strongly glossed with purple; abdomen brown, anal tuft large and wide, centre grey, sides dark brown.—Forewing with costa strongly arched, liver-brown strongly glossed and washed with reddish-purple, costal and terminal margins broadly bright reddish orange.—Hindwing brownish wood-grey.

Length of forewing : 9.5 mm.

*Hab.* Arawa, Bougainville, December 1907; Buin, Bougainville, January 1908; Isabel Island, June 1899—July 1900; Solomon Islands (A. S. Meek). (Type, Arawa.)

161. *Utriculifera variegata* sp. nov.

♂. Head wood-grey; antennae serrated rufous brown; bladder near base black, flattened and hollowed out with serrated edges; thorax yellowish pale wood-brown; abdomen ash-grey, last two segments and anal tuft pale wood-brown.—Forewing: basal third obliquely cream-buff, at outer corner on inner margin a brown lunule, and above median fold an orange spot; outer two-thirds buffish pale wood-brown saturated with dark brown, a costal and terminal row of brown-black spots, a zigzag oblique whitish line beyond middle, inner margin strongly convex.—Hindwing: basal third greyish white, outer two-thirds wood-brown, a longitudinal buff band runs from termen along vein 4 to middle of cell.

Length of forewing : 10—11.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

162. *Utriculifera utricularia* sp. nov.

♂. Head pale wood-brown; antennae much less serrate than in preceding species, the bladder is so deeply serrated, however, that it appears to be divided up into a number of lamellae; abdomen ash-grey, anal tuft buffish yellow.—Forewing: basal half obliquely inwards pale buffish wood-brown, with three brown marks on costa, the centre one running obliquely across cell, and a number of indistinct brown dots and scalings; outer half buff with a few brown dots and suffusions of scales.—Hindwing brownish buff.

Length of forewing : 9.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., April 1906 (A. S. Meek).

163. *Stictosia pallidimaculata* sp. nov.

♂. Head creamy; antennae brownish yellow; thorax and abdomen yellowish buff, anal tuft very large and darker.—Forewing wood-brown, base, two wedge-shaped marks on costa and an oblique median band more or less interrupted pale cream-buff.—Hindwing greyish buff, a broad wood-brown terminal band from apex to vein 1, fringe buff.

Length of forewing : 9.5 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., January 1906 (A. S. Meek).

164. *Stictosia variegata* sp. nov.

♂. Head, antennae, and thorax yellow, tips of patagia and hind part of thorax reddish mauve; abdomen greyish buff.—Forewing golden yellow; an oblong basal blotch below median vein, an irregular broad oblique median band, and a postmedian broad blotch-like band reddish mauve sprinkled sparsely with yellow scales.—Hindwing cream-buff.

Length of forewing: 9 mm.

*Hab.* Biagi, Mambare River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

165. *Chionaema aurantiipuncta* sp. nov.

♂. Antennae rufous; head and thorax white marked with rufous orange; abdomen above basal three segments white, rest orange-brick.—Forewing white, a subbasal band of rufous orange, an oblique antemedian line from median vein to inner margin, a spot on costa and three in cell, a postmedian band and a subterminal band rufous orange.—Hindwing salmon-pink, fringe and apex white.

Length of forewing: 15—17 mm.

*Hab.* Sapit, Lombok, 2000 ft., May and June 1896 (H. Fruhstorfer).

166. *Chionaema distincta* sp. nov.

♀. Head and thorax white, antennae pale brown, tegulae and patagia with crimson bands, abdomen salmon-pink.—Forewing snow-white; a subbasal, antemedian, and postmedian band crimson-scarlet, a subterminal band paler scarlet, three black spots in cell and on discocellulars.—Hindwing rose-colour, fringe, apex, and costal area white.

Length of forewing: 25 mm.

*Hab.* East Pegu, Burma, 4000—5000 ft., March—April 1890 (W. Doherty).

167. *Chionaema fasciatella* sp. nov.

♂. Antennae rufous; head white, thorax white; tegulae and apical half of patagia brick-red; abdomen, basal half grey, apical half rusty orange.—Forewing white, a subbasal band, a median and a postmedian band and apical fifth of wing brick-red; on inner side of median and outer side of postmedian band is a black line, and a trace of one on outside of subbasal band; a black stigma and a large scent-organ on costal area beyond median band.—Hindwing salmon-colour.

♀ larger, and the second band more antemedian; scent-organ absent.

Length of forewing: ♂ 19 mm., ♀ 20—24 mm.

*Hab.* Dongala, north of Palos Bay, Celebes, September—October 1896 (W. Doherty); Toudano, North Celebes, September—October 1899; Bonthain Peak, South Celebes (H. Fruhstorfer).

168. *Chionaema rufistigma* sp. nov.

♀. Head white; thorax white, tegulae and patagia with brick-red bands; abdomen rusty orange.—Forewing white; a subbasal, an antemedian and post-

median band and a terminal band brick-red; a pale brick-red spot and a darker stigma in cell.—Hindwing yellowish salmon.

Length of forewing: 17 mm.

*Hab.* Mount Marapok, Dent Province, British North Borneo.

169. **Chionaema flavalba** sp. nov.

♂. Antennae brown; head and thorax white, tegulae and patagia banded with yellow; abdomen pale grey (injured).—Forewing white; a subbasal, antemedian and median band yellow; costal margin beyond postmedian band and terminal margin also yellow; two black spots, one in and one beyond cell.—Hindwing white.

Length of forewing: 10 mm.

*Hab.* Government Hill, Penang, 1000 ft., 19—24 May 1898 (Curtis).

170. **Chionaema rufifrons** sp. nov.

♂. Antennae rufous; head, frons scarlet, vertex white; thorax and abdomen white.—Forewing white; a large scent-organ on costa; basal half of costal edge pale scarlet.—Hindwing white.

Length of forewing: 15 mm.

*Hab.* St. Thomé Island, West Africa, October—November 1899 (Mocquerys).

171. **Chionaema aurantiorufa aurantiorufa** subsp. nov.

♂. Antennae, head, thorax, and abdomen buffly orange, tegulae and patagia edged with brick-red.—Forewing pale buffish orange, a subbasal, antemedian and postmedian band salmon-colour, a black line inside antemedian and outside postmedian band; wing beyond postmedian band flushed with pink; a black spot in cell and two on discocellulars.—Hindwing dark salmon-rose.

Length of forewing: 16 mm.

*Hab.* Bataug Proepoe, Padang Bovenlanden, Sumatra, 1500 ft., November—December 1896 (L. Z. Kannegieter).

172. **Chionaema aurantiorufa niasana** subsp. nov.

♂ ♀. Forewing more nankeen yellow; ante- and postmedian bands black with hardly a trace of red; only two black spots in ♀.

Length of forewing: ♀ 21 mm., ♂ 17.5 mm.

*Hab.* Rili Madjedja, North Nias, September—December 1895 (L. Z. Kannegieter).

(To be continued.)

---

DESCRIPTIONS D'ESPÈCES ET VARIÉTÉS NOUVELLES DE  
COCCINELLIDES DU BRITISH MUSEUM.

PAR LE DOCTEUR SICARD, MÉDECIN MAJOR.

1. *Solanophila chirindica* spec. nov.

Subcordiformis, convexa, pube grisea, parce vestita, rufa, elytris nigris maculis septem (2. 2. 2. 1 ordinatis) notatis, pedibus rufis.

Long. : 0<sup>m</sup> 008—0<sup>m</sup> 0085.

Subcordiforme, luisante, rousse à élytres foncées tachées de jaune. Tête d'un roux brunâtre, palpes de même couleur avec le dernier article rembruni. Antennes rousses, avec les deux derniers articles de la massue légèrement rembrunis. Corselet à côtés arrondis, en arc de cercle large à la base, à peine tronqué au devant de l'écusson, d'un rouge brunâtre assez clair, à ponctuation fine, superficielle et dense, et à pubescence grisâtre, assez longue et clairsemée, avec les angles antérieurs arrondis, les postérieurs indistincts, les côtés légèrement relevés. Ecusson roux, triangulaire. Elytres plus larges que le corselet à la base, arrondis aux épaules avec un rebord très étroit, visible seulement vers le milieu, ayant vers le tiers antérieur leur plus grande largeur, régulièrement arrondis jusqu'à l'extrémité; ponctuation fine et superficielle avec des points enfoncés à peine plus gros et clairsemés, et de très gros points enfoncés le long du bord latéral. Dessus luisant, à pubescence fine, assez longue et peu dense, ne masquant pas la couleur foncée; noirs à sept taches d'un jaune d'ocre; tache 1 près de la base en ovale court, s'éloignant de la suture d'avant en arrière, couvrant le tiers interne de la base et le sixième de la longueur; 2 en ovale oblique en dehors, atténuée en avant, couvrant le calus à sa partie interne, limitée en dehors par la partie fortement ponctuée et aussi longuement prolongée en arrière que la tache 1; 3 et 4 au tiers antérieur; 3 transversale, réniforme, couvrant le tiers de la largeur environ, plus rapprochée de la suture que la tache 1; 4 en forme de courte bande un peu oblique en arrière et en dedans, de même largeur et de même longueur que la précédente, également éloignée de celle-ci et du bord latéral; taches 5 et 6 aux deux tiers: 5 à la même distance de la suture que 3, oblique, en avant et en dehors; 6 un peu plus étroite, en forme de courte bande oblique en sens inverse, en arrière de 4, de même largeur mais un peu plus courte et dirigée autrement; 7 en ovale irrégulier, oblique, en avant de l'angle apical, aussi éloignée de la suture que du bord externe, moins rapprochée de l'extrémité.

Dessous d'un roux brunâtre clair avec les épipleures des élytres largement bordées de noir; plaques abdominales en ogive arrondie atteignant au-delà des trois quarts de l'arceau.

Pieds roux.

Chirinda, Mashonaland.

La couleur du corps, la forme des taches des élytres et celle des plaques abdominales distinguent nettement cette espèce de toutes les autres.

2. *Solanophila ardosiaca* spec. nov.

Subcordata, pube grisea longa dense vestita, nigra, elytris maculis septem (2.2.2.1 positis) notatis. Subtus cum pedibus nigra; epipleuris elytrorum fulvis, nigro marginatis.

Long. : 0<sup>m</sup> 0065—0<sup>m</sup> 007.

Cordiforme, noire, couverte d'une pubescence grisâtre assez longue et dense qui masque la couleur foncière, en laissant autour des taches une partie dénudée qui paraît ainsi les entourer d'un cercle noir. Tête noire avec la partie antérieure du labre brunâtre; palpes d'un brun noir; antennes rousses avec le premier article et la massue rembrunis. Corselet beaucoup plus étroit que les élytres, fortement arrondi sur les côtés avec les angles postérieurs obtus et bien marqués, la base en ogive tronquée au devant de l'écusson, les angles antérieurs arrondis, les bords un peu relevés; la ponctuation fine et dense; d'un noir profond, à pubescence grise dirigée du milieu vers les bords. Ecusson noir, plus long que large. Elytres fortement cordiformes, arrondis aux épaules, rétrécis en ligne courbe jusqu'à l'extrémité, ayant vers le quart antérieur leur plus grande largeur, sans rebord explané, à calus huméral obsolète; à ponctuation double, les gros points nombreux, mais peu profonds, avec une série de deux ou trois rangées de très gros points enfoncés le long du bord latéral, presque confluent au niveau de l'épaule; noirs, paraissant gris par l'effet du duvet, avec sept grosses taches jaunes placées sur 4 rangs : 2.2.2.1, comme dans *S. 14-signata*; tache 1 arrondie à l'écusson, couvrant le tiers interne de la base de l'élytre et le huitième de la longueur, laissant un mince liséré noirâtre le long de la base et de l'écusson; 2 pyriforme, oblique en dehors, atténuée en avant, séparée de la première tache par un intervalle égal au sixième de la largeur de la base, étendue en arrière jusqu'à la même hauteur, et aussi grosse qu'elle a son extrémité postérieure limitée en dehors par la partie rugueusement ponctuée du bord latéral; 3 et 4 au tiers antérieur; 3 à la suture, de même forme et de même taille que 1; 4 en ovale transversal, à la même distance du bord latéral que 2, une fois et demie plus large que longue; 5 arrondie, aux deux tiers, de même forme et de mêmes dimensions que les deux autres taches juxtasuturales 1 et 3, ou un peu plus grosse; 6 en arrière de 4, en carré légèrement transversal, un peu obliquement dirigée en avant et en dedans; 7 aux cinq-sixièmes, arrondie, un peu plus près de la suture que de l'extrémité et du bord latéral, un peu plus grosse que 5.

Dessous noir avec une grosse tache fauve allongée à la partie interne et basale des épipleures qui sont ainsi claires avec le bord externe et l'extrémité largement noirs.

Pieds entièrement d'un noir profond. Plaques abdominales en arc de cercle régulier.

Chirinda, Mashonaland.

Cette espèce se distingue de *S. 14-signata* Reiche par sa forme plus élargie en avant, ses taches plus grosses, son duvet gris plus fourni. Sa forme et sa pubescence rappellent celles de *S. triquetra* Weise. Il se pourrait que la *S. 14-signata* de Mulsant se rapportât à cette espèce, car les exemplaires de la collection Reiche sont beaucoup plus clairs comme coloration que ne l'indique la description de Mulsant, qui semble avoir été faite sur un individu de couleur très foncée, tandis que les exemplaires d'Abyssinie sont généralement brunâtres avec le corselet plus clair.



3. *Solanophila* (?) *arrowi* spec. nov.

Subovata, supra, nigra, capite maculisque septem elytrorum rufis; subtus nigra, femoribus anticis basi elytrorumque epipleuris rufis; pedibus nigris; laminis abdominalibus laevibus integris.

Long. : 0<sup>m</sup> 008.

En ovale court, noire à pubescence grisâtre. Tête d'un roux brunâtre clair; antennes rousses avec le premier article et la massue rembrunis; palpes roux. Corselet très transversal, plus de deux fois aussi large que long, à peine rétréci en avant, à angles antérieurs largement arrondis, les postérieurs obtus et bien marqués, les côtés presque droits du tiers antérieur à la base; cette dernière sinuee et tronquée au devant de l'écusson; ponctuation simple, assez grosse, superficielle; pubescence grise, longue, peu dense; ne masquant pas la couleur foncière noire. Ecusson noir. Elytres un peu plus larges que le corselet à la base, en ligne oblique à l'épaule et régulièrement ovalaires jusqu'à l'extrémité, avec un rebord très incliné, étroit, parallèle, ponctuation très fine, superficielle et dense, avec quelques gros points clairsemés, plus gros et plus denses, mais non confluent, le long du rebord; noirs à sept taches rousses entourées d'un cercle dénudé paraissant plus foncé, disposées sur 4 rangs: 2.2.2.1. Tache 1 ponctiforme, de chaque côté de l'écusson; 2 en forme de petit trait court étendu du calus huméral à la base; 3 et 4 au quart antérieur: 3 arrondie, couvrant un peu moins du quart de la largeur, éloignée de la suture de la moitié de son propre diamètre, 4 en carré à égale distance du bord latéral, des élytres et du bord externe de 3; 5 et 6 après le milieu: 5 au dessous de 3, plus grosse, irrégulièrement arrondie, 6 en ovale transversal, sa partie interne atteignant le rebord incliné; 7 irrégulièrement arrondie, aux cinq sixièmes de la longueur, couvrant plus de la moitié de la largeur, également distante de la suture et du bord latéral, plus éloignée de l'extrémité.

Dessous noir avec la base des fémurs antérieurs rougeâtre. Epipleures d'un rouge brunâtre étroitement bordées de noir en dehors; plaques abdominales incomplètes, la partie interne de la ligne fémorale en arc de cercle atteignant presque le bord postérieur de l'arceau, avec lequel elle reste parallèle, puis remontant en dehors vers le tiers externe jusqu'au milieu de l'arceau, où elle devient indistincte.

Chirinda, Mashonaland.

Cet insecte portait sur son étiquette le nom de *E. proserpina*, mais elle s'en distingue nettement par sa forme ovale, par son corselet non rétréci, par le nombre de ses taches élytrales. Je le classe avec doute, et par analogie avec les autres espèces à sept taches, dans le genre *Solanophila*, les deux exemplaires que j'ai vus ayant perdu le dernier article de tous leurs tarses.

4. *Solanophila auricoma* spec. nov.

Breviter ovalis supra nigra, pube aurea densissima vestita; capite, lateribus prothoracis maculisque novem elytrorum rufis aureopubescentibus; subtus nigra; prosterno, abdominis apice, tibiis tarsisque rufescentibus.

Long. : 0<sup>m</sup> 0055.

En ovale court, à pubescence rousse, à reflets dorés sur les parties fauves, très dense et masquant la couleur foncière. Voisine de *S. ducivieri* Weise et peut-être encore plus de *S. haftigeri* Weise qui m'est inconnue. Distincte de toutes deux par sa pubescence dorée et par la présence de quatre taches latérales aux élytres.

Tête rousse, à pubescence d'un jaune doré sur le front, presque glabre antérieurement. Antennes et palpes roux, extrémité des mandibules noire. Corselet d'un brun noir foncé avec les côtés largement et graduellement teintés de roux ; arrondi sur les bords avec la base en ogive large et les angles postérieurs peu distincts. Écusson noir en triangle à côtés curvilignes. Elytres très légèrement plus larges que le corselet à la base, avec l'angle huméral arrondi, régulièrement ovalaires jusqu'à l'extrémité, sans rebord latéral distinct, à calus huméral petit, à ponctuation double, avec les gros points nombreux et bien marqués également sur le disque et le bord latéral ; noirs à 9 taches d'un jaune d'ocre vif, la 7<sup>e</sup> en arc de cercle, la dernière apicale ; pubescence jaune avec des reflets dorés sur les taches ; ces dernières disposées de la façon suivante : trois près de la base, trois avant le milieu, deux après le milieu, une apicale. Tache 1 en carré allongé égal à peu près au sixième de la longueur, deux fois plus long que large ; un peu plus rapprochée de la suture que de la base ; 2 un peu plus courte, ovale, un peu plus rapprochée de la base, atteignant le calus par son bord externe ; 3 en triangle, à l'épaule, coupée droit en dedans et en arrière, aussi longuement prolongée que 1 en arrière, commençant en dedans au niveau des angles postérieurs du prothorax ; 4 en carré transversal, juste sur le disque, couvrant le tiers de la largeur, contiguë à 2 par son angle antéro-externe ; 5 au milieu, arrondie, plus rapprochée de la suture que 1, atteignant le quart interne de la largeur de l'élytre ; 6 en carré un peu plus long que large, atteignant en arrière le milieu du bord latéral, de même longueur que la tache 3 et un peu plus large ; tache 7 en arc de cercle large ou de **C** épais, sur l'élytre droit, formée d'une partie juxtasuturale en forme de virgule largement liée à une tache arrondie située sur le disque après le milieu ; 8 au bord latéral en carré long, un peu plus étroite et plus allongée que 6 ; 9 demi-circulaire, petite, dans l'angle apical.

Dessous noir, avec le prosternum et l'extrémité de l'abdomen roux ; plaques abdominales très aplaties en forme d'**U** dont la branche horizontale serait contiguë au bord postérieur de l'arceau.

Fémurs noirs, tibias et tarses roux.

Untali—un seul exemplaire.

##### 5. *Epilachna lanceolata* spec. nov.

Oblongo ovalis, postice acuminata, nigra, pube grisea subbilter vestita ; elytris rubris, limbo laterali in medio bidilatato, limbo suturali basi angusto, ante medium triangulariter dilatato deinde leviter usque ad apicem angustato (apice ipso dilatato) nigris.

Long. : 0<sup>m</sup> 0088.

Ovale oblongue et de la même forme que *E. erichi* Weise dont elle est voisine. Tête, mandibules et palpes noirs ; antennes rousses, avec le premier article et la masse rembrunis ; corselet noir, mat, à pubescence courte, fine et peu dense, à côtés arrondis et irrégulièrement relevés, avec la base en arc de cercle large et les angles postérieurs peu accusés. Écusson noir, triangulaire, un peu plus long que large. Elytres plus larges que le corselet à la base, oblongs, acuminés en arrière, à rebord relevé, dilaté en arrière de l'épaule ; à ponctuation très fine, entremêlée d'assez nombreux points un peu plus gros et plus serrés le long du bord latéral ; d'un rouge brun mat avec une bordure latérale et une bordure suturale noires : la bordure latérale partant de l'angle huméral en avant du calus, réduite à peu près au rebord ou empiétant très peu sur la partie convexe de l'élytre jusqu'au quart

antérieur de la longueur, où elle se dilate en une tache demi-circulaire étendue du quart à la moitié de la longueur du bord latéral, et prolongée en dedans jusqu'aux deux cinquièmes externes de la largeur; rétrécie de nouveau en ne formant plus qu'une étroite bordure latérale, puis dilatée à peu près de la même façon que précédemment en une tache de même forme, mais un peu plus petite et dirigée en dedans et en avant jusqu'aux trois quarts de la longueur, où elle se rétrécit de nouveau pour s'élargir graduellement jusqu'à l'extrémité où elle rejoint la bordure suturale, celle-ci embrassant à la base les côtés de l'écusson en formant une tache carrée, petite, puis rétrécie brusquement jusqu'au sixième de la longueur; là, elle se dilate en formant de chaque côté un triangle à bords sinueux, à sommet arrondi situé juste en face de la première dilatation de la bordure latérale, à côté antérieur court, à côté postérieur allongé en ligne courbe, rentrante, jusqu'aux cinq sixièmes de la longueur; de nouveau la bordure se dilate pour se réunir à la suturale et former ainsi une tache triangulaire apicale; la bordure suturale des deux élytres prend ainsi la forme d'un fer de lance (la tête de l'insecte étant tournée vers l'observateur).

Dessous noir, pieds noirs, ongles grêles, munis d'une dent large à la base. L'insecte unique sur lequel a été faite la description ci-dessus étant très euéglé, je n'ai pu examiner les plaques abdominales.

Melsetter, Mashonaland.

#### 6. *Chnootriba lata* spec. nov.

Late ovalis, nigra, griseopubescens; elytris rufis fasciis duabus maculisque tribus ( $\frac{1}{2}$ . I.  $\frac{1}{2}$  instructis) notatis. Pedibus nigris.

Long.: 0<sup>m</sup>007.

En ovale large, atténué en arrière, et recouverte d'une pubescence jaunâtre; tête noire; palpes roux; antennes rousses avec la massue et la base du premier article noires. Corselet noir avec une fine bordure roussâtre aux angles antérieurs, à pubescence grise, assez longue et peu dense, à côtés arrondis, un peu relevés, les angles postérieurs peu distincts et la base en ogive large, sinuée de chaque côté et tronquée au devant de l'écusson. Celui-ci noir, petit, en triangle équilatéral. Elytres un peu plus larges que le corselet à la base, arrondis aux épaules, ayant leur plus grande largeur au tiers antérieur, atténués en arrière, tombant droit sur les côtés avec un petit rebord très étroit, à ponctuation fine, entremêlée de nombreux gros points enfoués; d'une jaune roux avec deux bandes et trois taches noires. La première bande partant des côtés de l'écusson et suivant le bord antérieur de l'élytre en y laissant une mince bordure de la couleur foncière, un peu dilatée en arc de cercle de chaque côté de l'écusson, étendue en dehors jusque sur la partie déclive des élytres, où elle laisse une bordure jaune de même largeur qu'à la base, prolongée jusqu'au quart de la longueur, coupée droit d'un bord latéral à l'autre à sa partie postérieure; la seconde bande parallèle, couvrant des deux aux trois cinquièmes de la largeur, légèrement oblique en avant et en dedans, laissant à la suture et au bord latéral un fin liséré jaunâtre. Tache 1 en triangle à sommet arrondi, à base étendue sur la suture, des trois cinquièmes aux deux tiers, et à sommet externe prolongé jusqu'au tiers de la largeur, formant avec celle de l'autre élytre un losange transversal. Tache 2 grosse, irrégulièrement arrondie, tronquée en arrière sur le disque, des deux tiers aux cinq sixièmes, plus rapprochée du bord latéral que de la suture. Tache 3 triangulaire, concave en avant, dans l'angle apical.

Dessous noir ; plaques abdominales limitées par un arc de cercle à leur partie interne, ouvertes en arrière et en dehors.

Ongles bifides, dentés à la base.

Les espèces à ongles dentés et bifides et à plaques abdominales très incomplètes, me semblent pouvoir former un genre à part, détaché des *Epilachna* qui ont les plaques complètes ou ouvertes seulement en haut de leur bord externe. L'insecte ci-dessus, à cause de sa forme très élargie, ne peut, à mon avis, être considéré comme une variété de *Ch. similis* Th.

Kambowe, Lualaba, Afrique Orientale.

#### 7. *Thea parenthesis* spec. nov.

Oblonga, parum convexa, nitida ; capite flavo, vertice nigro ; palpis antennisque luteis ; thorace transverso, subquadrato, pallide flavo, lateribus hyalinis, maculis 5 brunnescentibus plus minusve dilutis notato ; scutello parvo, brunneo ; elytris elongatis, lateribus parum incurvatis, luteis linea crassa discali apice et postice intus incurvata saturate fusca instructis. Subtus flava, metasterno brunnescente. Pedibus flavis.

Long. : 0<sup>m</sup> 003.

Ovale, peu convexe, luisante. Tête d'un jaune pâle avec le vertex d'un noir profond, cette couleur noire avancée légèrement sur le haut du front. Antennes et palpes flaves. Corselet transversal, peu arrondi sur les côtés et peu rétréci en avant, à peine concave à sa partie antérieure, recouvrant la partie postérieure des yeux, à ponctuation à peine visible, d'un flave très pâle avec les côtés transparents, marqué de quelques petites taches d'un brun très pâle, ordinairement au nombre de cinq : trois à la base dont une antéscutellaire, deux sur le disque, de chaque côté de la ligne médiane, parfois réunies, parfois à peine distinctes. Ecusson petit, triangulaire, plus large que long, d'un brun plus ou moins foncé. Elytres à peine plus larges que le corselet à la base, régulièrement ovalaires, arrondis séparément à l'extrémité, peu convexes, à tranche inclinée étroite, à calus huméral peu accusé ; ponctuation assez forte, dense, bien imprimée ; d'un jaune pâle avec une large ligne discale d'un brun foncé, couvrant le quart de la largeur, deux fois moins rapprochée de la suture que du bord externe, commençant au niveau du calus qu'elle couvre par son angle antéro-externe, prolongée jusqu'aux six septièmes de la longueur, incurvée transversalement à ses deux extrémités, atteignant presque la suture en avant et la touchant tout à fait en arrière, ayant ainsi sur l'élytre gauche la forme d'un  $\square$  épais ; émettant parfois à son angle apical externe un court prolongement dentiforme.

Dessous blanchâtre avec le métasternum plus ou moins rembruni.

Pieds d'un roussâtre pâle.

Salisbury, Mashonaland.

Cette espèce est beaucoup plus étroite que la *Thea imbecilla* Gerst., et son dessin est bien différent.

#### 8. *Vibidia marshalli* spec. nov.

Late ovalis, parum convexa, nitida. Capite luteo, labro rufo macula parva mediana verticis brunnescente : antennis palpisque rufis. Thorace luteo, lateribus rotundatis, translucens, maculis quinque brunneis (tribus basalibus, duabus in disco anteriore sitis) notato. Scutello flavo. Elytris brunnescentibus maculis

sex pallidoflavis notatis (4 prope marginem, 2 prope suturam positis) subtus rufa, lateribus pectoris flavis. Pedibus rufis.

Long.: 0<sup>m</sup> 0035.

En ovale large, peu convexe, luisante en dessus. Tête d'un jaune pâle avec le labre un peu plus foncé, et une petite tache médiane arrondie, brunâtre, sur le vertex ; antennes et palpes roux. Corselet transversal, un peu rétréci d'arrière en avant avec les angles arrondis et les côtés légèrement relevés, translucides ; d'un jaune pâle avec trois taches brunes, triangulaires à la base (ces taches réunies par leur base) dont l'une antéscutellaire et une de chaque côté de la première, et les deux autres, un peu plus foncées, sur la partie antérieure du disque : ponctuation très fine et très superficielle. Écusson flave. Elytres un peu plus larges que le corselet à la base, en ovale un peu rétréci d'avant en arrière, étroitement arrondis à l'extrémité ; à ponctuation moyenne, dense et superficielle surtout sur le disque ; à rebord relevé étroit, contourrant l'épaule et prolongé jusqu'à l'extrémité, légèrement translucide ; d'un jaune brunâtre avec six taches flaves. Tache 1 petite, en forme de triangle dont la base touche celle des élytres, à égale distance de l'écusson et des bords latéraux du prothorax ; tache 2 couvrant l'épaule, réunie à l'angle externe de la tache 1 en formant ainsi une bordure basale qui contourne le calus huméral, puis s'élargit en forme de triangle jusqu'au tiers de la largeur de l'élytre, étendue jusqu'au tiers de la longueur, concave à sa partie postérieure ; 3 irrégulièrement arrondie, un peu échancrée en avant, juxtasuturale, juste en face de la partie élargie de la tache 2, couvrant à peu près le tiers de la largeur ; 4 au-dessous de 3, juxtasuturale aux trois cinquièmes de la longueur, couvrant à peu près le quart de la largeur, subarrondie ou légèrement ovalaire ; 5 après le milieu, au bord latéral, transversalement étendue jusqu'au tiers de la largeur de l'élytre, légèrement prolongée le long du bord latéral en avant et en arrière où elle se lie à la tache 6 ; cette dernière étendue jusqu'à l'extrémité en forme de bordure semilunaire envoyant le long de la suture un court prolongement qui s'incurve en dehors et rejoint parfois la partie antérieure de la tache, enclosant ainsi une tache brunâtre ; la suture est aussi étroitement blanchâtre à sa partie antérieure.

Dessous blanchâtre avec le metasternum rembruni et les épisternes métathoraciques d'un flave jaunâtre brillant, les épimères restant concolores.

Pieds blanchâtres.

Chirinda, Mashonaland.

### 9. *Caria arrowi* spec. nov.

Rotundata, convexa, glabra. Capite rufo. Prothorace nigro, limbo apicali angusto, extus dilatato, limbo laterali, basin haud attingente, rubris ; fere levi, angulis anticis sinuatis, posticis obtusis, rotundatis ; scutello nigro, lateribus curvatis ; elytris rubris nigro basali angustissimo, limbo laterali lato, apice dilatato, nigris ; subtus rufobrunnea epipleuris elytrorum nigris interne rufolimbatis ; pedibus rufobrunneis.

Long.: 0<sup>m</sup> 011.

Tête d'un roux jaune avec les palpes et les antennes de même couleur, extrémité des mandibules noire. Corselet à côtés faiblement arrondis, rebordés, étroitement relevés, sinués au niveau des angles antérieurs qui sont avancés et

arrondis ; angles postérieurs obtus, largement arrondis ; base en arc de cercle large, non sinuée ; ponctuation obsolète sur le disque, plus visible sur les côtés et le long du bord latéral ; noir, à partie antérieure avec un étroit rebord rougeâtre qui s'élargit brusquement au niveau de la sinuosité postoculaire jusqu'à l'angle antérieur où il s'incurve le long du bord latéral jusqu'au milieu de la longueur, en laissant un mince liséré noirâtre à son côté externe. Ecusson noir, en triangle à côtés curvilignes, avec quelques points fins, épars et superficiels. Elytres plus larges que le corselet à la base, arrondis aux épaules, en courbe régulière sur les côtés, formant à peu près un cercle parfait tronqué en avant, à tranche large et décline, non limitée par un sillon à sa partie interne ; à ponctuation très fine, très écartée et très superficielle ; d'un rouge cerise vif avec, à la base, une très étroite bordure, à peine visible, noire, et une large bordure latérale de même couleur, commençant au niveau des angles postérieurs du corselet, contournant le calus huméral en s'élargissant régulièrement jusqu'aux deux tiers, couvrant, au milieu, à peu près le cinquième externe de la largeur, puis dilatée jusqu'à la suture en formant une large tache apicale commune, à bord antérieur sinuousement concave et couvrant à peu près le sixième postérieur de la longueur.

Dessous d'un roux brunâtre clair avec les épipleures prothoraciques bordées de noir du milieu à la base, et les épipleures des élytres noires, marquées en dedans d'une bordure d'un rouge brun clair dilatée à la base et après le milieu. Fossette des épipleures prothoraciques très grande, peu profonde, triangulaire ; prosternum avec deux fines carènes qui n'atteignent pas le bord antérieur et se réunissent à l'extrémité du prolongement intercoxal qui est faiblement lancéolé. Mésosternum large, échancré en demi-cercle à sa partie antérieure et muni d'une petite fossette profonde et arrondie, logeant l'extrémité du prosternum. Plaques abdominales atteignant le bord postérieur de l'arceau, en arc de cercle à leur partie interne, anguleuses à l'extrémité, concaves à leur partie externe, qui est moins marquée.

Pieds d'un rouge brun : fémurs profondément sillonnés tout le long en arrière, tibias largement sillonnés à leur partie postérieure avec les arêtes des sillons finement brunâtres.

Mindoro, Iles Philippines.

Cette espèce rappelle par sa couleur la *Leis atrocinata*. Elle s'en distingue (contre la fossette du corselet) par sa taille plus grande, le dessin de son corselet et la tranche explanée de ses élytres.

#### 10. *Dysis quadrilineata* spec. nov.

Breviter ovalis, nigra, rufo variegata : capite, palpis, antennisque rufis, Prothorace nigro : limbo antico angusto (in medio interrupto) in angulis anticis dilatato, maculis binis discoidalibus luteis interdum notato. Scutello nigro, punctato. Elytris rufis, limbo suturali, limbo laterali lineisque binis discoidalibus antice postice que connatis, ornatis. Subtus nigra ; epipleuris prothoracis luteis ; epipleuris elytrorum luteis externe nigro limbatis ; abdomine rufo ; segmenti primi medio nigro : segmentis 2<sup>o</sup>-5<sup>o</sup> maculis tribus nigris notatis. Pedibus rufis.

Long. : 0<sup>m</sup> 0045.

En ovale court, glabre, luisante, ponctué. Tête rousse avec le front densément et finement ponctué. Palpes et antennes roux. Corselet noir avec le bord antérieur étroitement d'un jaune pâle (cette bordure interrompue au milieu par un prolongement médian en angle très aigu de couleur noire) une grosse tache triangulaire de

même couleur faisant suite à la bordure apicale en dehors, couvrant l'angle antérieur, prolongée sur les côtés presque jusqu'à la base qu'elle n'atteint pas tout à fait, limitée en dedans par une ligne oblique sinueuse, d'abord convexe, puis concave ; sur le disque, deux petites taches oblongues, divergentes, de même couleur ; ponctuation moyenne, assez dense, superficielle. Écusson noir, ponctué, plus large que long. Elytres à peine plus larges que le corselet à la base, à côtés régulièrement ovales, non explanés ; à calus huméral saillant, à ponctuation forte, dense et bien marquée ; d'un jaune d'ocre vif avec une bordure suturale mince, plus étroite que l'écusson, parallèle de la base à l'extrémité, une bordure latérale deux fois plus étroite que la suturale, étendue de l'épaule à l'extrémité, parallèle sur toute sa longueur, et deux lignes longitudinales sur le disque, noires ; ces deux lignes réunies à la base et à l'extrémité, commençant par un trait unique qui va en s'élargissant jusqu'au delà du calus, où il se bifurque en deux lignes, l'interne presque droite, plus rapprochée de la suture que du bord latéral, l'externe convexe en dehors, plus rapprochée du bord externe que la première de la suture, réunie à la première ligne vers les sept huitièmes de la longueur, et le trait unique ainsi formé, prolongé jusqu'à la suture qu'il atteint un peu au-dessus de l'angle apical.

Dessous noir sur le prosternum (sauf les épipleures, qui sont d'un jaune pâle) sur le méso, le métasternum (épimères métasternales blanchâtres) et les trois quarts médians du premier arceau abdominal. Les quatre derniers arceaux ventraux d'un roux fauve avec trois taches noires : une sur la ligne médiane et une de chaque côté. Épipleures des élytres d'un jaune pâle, finement bordées de noir en dehors. Plaques abdominales atteignant le bord postérieur de l'arceau ; en arc de cercle régulier ; la partie externe atteignant le bord latéral un peu au-dessus de l'angle postérieur du premier segment ventral.

Pieds roux, ongles avec une grosse dent à la base.

Le dessin des élytres de cette espèce est tout à fait semblable à celui de la *Cydonia 4-lineata* Muls. Elle en diffère par sa forme oblongue, le dessin de son corselet, sa ponctuation beaucoup plus forte, la longueur de ses antennes, la largeur de son écusson, la couleur plus foncée de la tête, par ses élytres à peine plus larges que le corselet à la base, à angle huméral très arrondi.

Delagoa Bay.

### 11. *Dysis biguttata* nov. spec.

Late ovalis, punctata, nitida. Capite rufo fronte nigromaculata ; antennis palpisque rufis ; prothorace nigro, angulis anticis tenuiter albomarginatis ; scutello nigro ; elytris nigris crebre punctatis, guttis duabus rubris, in disco posteriori sitis, notatis. Subtus rufâ ; pedibus pallide fulvis.

Long. : 0<sup>m</sup> 004—0<sup>m</sup> 0042.

En ovale large, médiocrement convexe, luisante en dessus. Tête d'un roux fauve avec le front taché de noir et ponctué. Antennes et palpes roux. Corselet à côtés peu arrondis, rétréci en avant, à angles postérieurs obtus et émoussés, à base en arc de cercle large, non sinuée ; ponctuation très fine et très superficielle ; d'un noir profond avec les angles antérieurs bordés de blanchâtre, cette bordure étendue en avant jusqu'à la sinuosité postoculaire, sur les côtés jusqu'au tiers postérieur de la base, terminée en pointe à ses deux extrémités. Écusson noir, ponctué. Elytres un peu plus larges que le corselet à la base, arrondis aux épaules, largement ovalaires, en cercle large à l'extrémité avec un rebord extrêmement étroit ; ponctua-

tion assez grosse, dense et profonde ; d'un noir profond avec sur chacun une tache d'un rouge vif située sur le disque aux trois quarts de la longueur, à peu près à égale distance de la suture et du bord latéral, presque carrée, couvrant environ le cinquième de la largeur.

Dessous d'un fauve roussâtre, à pubescence courte et blanchâtre.

Pieds d'un jaune pâle.

## 12. *Dyris biguttata* ab. *sexguttata* nov.

Prothoracis lateribus late luteis, disco maculis binis flavis ; elytrorum limbo laterali brunneo, disco maculis tribus ornato differt.

Corselet noir avec les angles antérieurs largement d'un jaune flave, cette tache étendue en forme de bordure le long du bord antérieur en avant et jusqu'à la base sur les côtés en s'amincissant brusquement à partir des deux tiers de ceux-ci ; en outre, sur le disque, deux taches oblongues et d'un jaune blanchâtre. Elytres noirs rembrunis sur les côtés et à la base (probablement l'insecte était immature) et présentant, outre la tache normale qui est jaune, une tache de même forme et de même couleur sur le calus huméral et un point d'un jaune brun, très petit, entre cette tache et la suture.

Salisbury, Mashonaland.

## 13. *Dysis decempunctata* nov. spec.

Breviter ovata, modice convexa, nitida. Capite rufo : palpis antennisque concoloribus. Thorace luteo, limbo basali utriusque triangulariter dilatato maculaque media rhombiformi, limbo postice connexa, ornato. Elytris luteis, limbo laterali, limbo suturali maculisque decem nigris ornatis ; subtus flava ; pedibus pallidis.

Long. : 0<sup>m</sup> 004.

En ovale très court, presque arrondie, modérément convexe, luisante en dessus. Tête rousse avec le front très finement ponctué. Antennes et palpes concolores. Corselet à côtés légèrement arrondis, non sinués, les angles postérieurs obtus, émoussés, la base en arc de cercle large, non sinuée ; ponctuation extrêmement fine et superficielle, peu visible ; d'un jaune flave avec un dessin noir composé d'une bordure étendue d'un angle postérieur à l'autre, anguleusement dilatée de chaque côté jusqu'aux deux cinquièmes de la longueur, et d'une tache discale, en losange irrégulier, transversal, avec le côté antérieur légèrement anguleux au milieu, le côté postérieur prolongé en pointe jusqu'à la bordure de la base. Elytres à peine plus larges que le corselet à la base, à angle huméral arrondi, mais bien accusé ; régulièrement ovales de l'épaule à l'extrémité, à calus huméral petit et bien marqué, à ponctuation assez dense et assez profonde ; d'un jaune flave avec une bordure suturale, une bordure latérale et dix taches noires : la bordure suturale étroite, commençant à l'extrémité de l'écusson, parallèle jusqu'à près de l'extrémité qu'elle n'atteint pas tout à fait ; la bordure latérale réduite au rebord, s'amincissant vers l'angle sutural ; tache 1, de forme irrégulière sur le calus, couvrant un peu moins du tiers de la largeur, un peu plus longue que large, convexe en dehors, à bords débiquetés ; 2, petite, nébuleuse, située entre la tache 1 et la suture, un peu plus rapprochée de celle-ci ; 3, juxtasuturale, ovulaire, à bords irréguliers, aux trois cinquièmes de la longueur ; 4, transversale sur le disque, des deux tiers aux



quatre cinquièmes de la longueur, deux fois plus rapprochée du bord externe que de la suture ; 5, ponctiforme, réunie à la suture aux six septièmes de la longueur.

Dessous fauve avec les pieds d'un roux pâle.

Salisbury, Mashonaland.

#### 14. *Dysis gahani* spec. nov.

Breviter oblonga, nitida. Capite flavo, palpis antennisque rufis ; prothorace flavo, maculis tribus basalibus, inter se connexis, maculaque discali transversa ornato ; scutello nigro ; elytris pallidis, sutura tenuiter nigricante ; subtus nigra, lateribus abdominalis fulvis ; pedibus flavis.

Long. : 0<sup>m</sup> 0042.

En ovale court. Tête d'un fauve obscur avec le front ponctué ; antennes et palpes roux. Corselet rétréci en avant, à côtés arrondis, finement rebordés, à base largement arrondie, non sinuée ; à ponctuation fine et dense, bien marquée ; d'un roux clair, légèrement blanchâtre sur l'extrême bord latéral et marqué de quatre taches noires ; trois à la base : une antéscutellaire petite, largement réunie aux deux latérales qui sont triangulaires, étendues jusqu'au milieu de la longueur en avant, leur angle externe atteignant à peu près l'angle postérieur du prothorax ; une tache transversale sur le disque, semblant formée de deux taches réunies, convexe en arrière et sinuée en avant, retrécie en dehors, placée entre les deux extrémités des taches latérales de la base. Ecusson noir. Elytres légèrement plus larges que le corselet à la base, régulièrement ovales, jusqu'à l'extrémité : d'un jaune pâle sans taches, avec la bordure suturale étroitement brunâtre (plus nettement dans sa partie antérieure).

Dessous d'un noir profond avec les côtés et l'extrémité de l'abdomen d'un jaune pâle ; pubescence du dessous peu serrée, blanchâtre.

Pieds flaves.

Mashonaland.

La *Cydonia picticollis* Gorham et l'*Autotela picticollis* Weise, les seules espèces qui par leur système de coloration pourraient être confondues avec celle-ci, se distinguent par leur forme très arrondie et le dessin du corselet, qui est différent.

#### 15. *Dysis limbicollis* spec. nov.

Late ovalis, glabra, nitida. Capite flavo antennisque rufescentibus. Prothorace nigro, limbo apicali laterali pallide flavocincto. Elytris nigris crebre punctulatis ; subtus rufa. Pedibus rufis.

Long. : 0<sup>m</sup> 0045.

En ovale large, peu convexe, brillante en dessus. Tête d'un jaune flave, ponctué sur le front avec les palpes et les antennes roux. Corselet fortement rétréci en avant ; légèrement sinuée au côté externe des angles antérieurs, les postérieurs arrondis, la base en arc de cercle large, non sinuée sur les bords latéraux finement relevés ; ponctuation simple, fine et dense ; d'un noir profond avec un mince liséré blanchâtre au sommet et sur les côtés, n'atteignant pas tout à fait la base. Ecusson noir. Elytres un peu plus larges que le corselet, arrondis aux épaules, régulièrement ovales, avec un étroit rebord ; ponctuation plus grosse que celle du corselet, profonde, dense, plus dense et avec des points plus gros le long du bord latéral, les points du disque légèrement inégaux ; d'un noir profond sans tache, parfois avec l'extrémité d'un brun noir. Ailes membraneuses, noirâtres.

Dessous roussâtre, densément pubescent de blanc, avec les épipleures du corselet d'un flave blanchâtre luisant.

Pieds roux.

Salisbury, Mashonaland.

Distincte de *Autotela nigra* Weise par sa forme ovale et non arrondie, aplatie au lieu d'être convexe, et son épistome échancré en arc de cercle.

#### 16. *Dysis collaris* spec. nov.

Late ovalis, nitida. Capite rufo; antennis palpisque concoloribus, vertice nigro. Prothorace nigro. limbo antico lateraliq. albo tenui marginato. Elytris rubidis, immaculatis sutura anguste brunnea. Subtus rufa, albidopubescentis. Pedibus pallide rufis.

Long. : 0<sup>m</sup> 0045.

En ovale large, peu convexe, glabre et luisante en dessus. Tête d'un roux fauve à front mat et ponctué, avec les palpes et les antennes de même couleur; vertex noir. Corselet fortement rétréci en avant, à côtés très légèrement arrondis, les angles antérieurs aigus, non sinués en dehors, les postérieurs obtus, largement émoussés; la base en arc de cercle large, non sinuée, les bords latéraux finement relevés; ponctuation fine et dense; d'un noir profond, avec une mince bordure apicale brunâtre et une bordure latérale de même largeur, blanchâtre, prolongée jusqu'à la base. Ecusson noir. Elytres d'un rouge orangé sans tache avec la suture étroitement brunâtre, un peu plus larges que le corselet à la base, régulièrement ovales jusqu'à l'extrémité, à ponctuation plus grosse que celle du corselet, très dense surtout sur les bords.

Dessous d'un roux fauve avec les pieds plus pâles.

Salisbury, Mashonaland.

#### 17. *Dysis fulva* spec. nov.

Breviter ovalis, supra lutea, nitida; subtus fulva, metasterno abdominisque medio brunnescentibus vel nigricantibus; pedibus flavis.

Long. : 0<sup>m</sup> 004—0<sup>m</sup> 0045.

En ovale court, médiocrement convexe, luisante. Tête rousse avec le vertex concolore; front ponctué; antennes et palpes roux. Corselet rétréci en avant, à côtés légèrement arrondis, avec un très fin rebord; les angles postérieurs obtus, arrondis, la base en arc de cercle large, non sinuée; ponctuation simple, fine et assez dense; d'un jaune roux, graduellement plus clair sur les côtés. Ecusson roux. Elytres légèrement plus larges que le corselet à la base, arrondis aux épaules, régulièrement ovales jusqu'à l'extrémité; à ponctuation plus forte que celle du corselet; d'un jaune roux sans tache ou avec le rebord sutural imperceptiblement rembruni. Dessous d'un roussâtre pâle avec le métasternum et le milieu de l'abdomen un peu plus foncés, variant du brun au noirâtre.

Pieds flaves.

Salisbury, Mashonaland.

Les *Dysis limbicollis*, *collaris*, et *fulva* ont entre elles la plus grande analogie. Les deux premières ne m'ont guère paru différer que par la couleur; chez la troisième, la ponctuation m'a semblé plus fine, les côtés du corselet plus arrondis et la forme plus courte.

Peut-être l'examen d'un plus grand nombre d'exemplaires amènera-t-il à les réunir.

18. *Elpidia distigma* spec. nov.

Fere hemisphaerica ; supra nigra, subtus pallide rufobrunnea. Capite nigro : ore antennis palpisque rufis ; fronte dense punctata ; prothorace nigro limbo angusto apicali flavo ; elytris nigris, guttis duabus discoidalibus rubris ; epipleuris nigris.

Long. : 0<sup>m</sup> 0055—0<sup>m</sup> 006.

Arrondie, presque hémisphérique, très convexe, d'un noir luisant en dessus. Tête noire avec le bord antérieur de l'épistome très étroitement, le labre, les palpes et les antennes jaunes ; le dernier article de la massue de celles-ci légèrement rembruni à l'extrémité ; front rétréci en arrière, à ponctuation assez grosse, dense et bien marquée ; corselet d'un noir luisant avec une mince bordure d'un jaune pâle à la partie antérieure couvrant le côté externe des angles antérieurs jusqu'au tiers des côtés ; ceux-ci finement rebordés, avec une ligne entoncée obsolète en dedans du rebord ; angles postérieurs arrondis, les antérieurs non sinueés en dehors, base en arc de cercle large, non sinueée. Ecusson grand, plus large que long, noir. Elytres plus larges que le corselet aux épaules, régulièrement arrondis en cercle jusqu'à l'extrémité ; sans tranche, à calus huméral saillant, à ponctuation fine, peu dense et assez profonde sur le disque, semblable à celle du corselet ; sur le bord latéral une traînée de gros points qui deviennent de moins en moins denses et de moins en moins gros au fur et à mesure qu'ils s'éloignent de l'épaule ; d'un noir luisant, avec une très petite tache arrondie d'un rouge vif sur le disque de l'élytre, au tiers antérieur de la longueur, un peu plus rapprochée de la suture que du bord externe.

Dessous d'un jaune brunâtre clair, luisant, avec les côtés du mésosternum blanchâtres et les épipleures des élytres noires. Prosternum avec deux fines carènes n'atteignant pas le bord antérieur ; plaques abdominales en arc de cercle large, contiguës par leur convexité au bord postérieur de l'arceau, leur partie externe atteignant le bord latéral un peu au-dessus de l'angle postérieur du segment. Abdomen à ponctuation nette, peu dense, plus épaisse sur le prolongement intercoxal ; métasternum presque lisse.

Pieds de la couleur du dessous.

Cette espèce a tout à fait le dessin du *Chilocorus distigma* Klug.

Salisbury, Mashonaland.

19. *Elpidia simoni* spec. nov.

Subhemisphaerica, convexa, glabra. Capite rufo fronte nigrobimaculato ; prothorace rubro, basi nigro limbato, angulis anticis albomarginatis. Elytris nigris, guttis duabus rubris discoidalibus notatis ; subtus rubrobrunnea ; pedibus concoloribus.

Long. : 0<sup>m</sup> 0055.

Arrondie, très convexe, luisante en dessus et en dessous. Tête rougeâtre, plus pâle sur la partie antérieure de l'épistome et sur le labre, avec deux grosses taches noires en dedans de chaque œil, ne laissant sur le front qu'une ligne médiane rougeâtre ; front à ponctuation très nette, mat ; palpes et antennes roux. Corselet d'un rouge vif, à côtés régulièrement arrondis, finement rebordés ; à angles antérieurs très légèrement sinués en dehors ; à base en arc de cercle large, non sinuée, avec les angles postérieurs arrondis ; ponctuation fine, plus épaisse sur le disque, bien marquée,

assez dense sur les bords ; d'un rouge vif avec, à la base, une bordure noire étroite, échancrée au milieu remontant jusqu'au tiers postérieur des côtés, et une étroite bordure blanchâtre aux angles antérieurs. Ecusson noir, triangulaire. Elytres plus larges que le corselet à la base, arrondis aux épaules, en cercle régulier jusqu'à l'extrémité, sans tranche, avec un calus huméral saillant et petit ; ponctuation semblable à celle du corselet sur le disque avec de gros points le long du bord latéral, surtout denses et profonds auprès de l'angle huméral ; d'un noir brillant avec deux petites taches rouges, la première arrondie, à bords déchiquetés, au tiers antérieur de la longueur, aux deux cinquièmes internes de la largeur, la seconde ponctiforme, au sixième postérieur, deux fois plus rapprochée de la suture que du bord latéral et de l'angle apical. En outre, on distingue une petite trace rougeâtre près de la suture au niveau du milieu, plus visible d'un côté que de l'autre.

Dessous d'un rouge brunâtre clair avec les pieds concolores. Epimères des élytres d'un noir profond, pattes pubescentes.

Salisbury, Mashonaland.

Un seul exemplaire.

## 20. *Elpidia sanguinolenta* spec. nov.

Subhemisphærica, convexa, supra nitida. Capite obscure rubro, immaculato ; antennis palpisque rufis. Thorax rubro, angulis anticis albomarginatis. Scutello rubro. Elytris nigris, maculis duabus magnis rubris, notatis : prima transversa, lata, fasciiformi, nec marginem nec suturam attingente juxta suturam postice breviter producta ; secunda obovata, anteapicali. Subtus rubrobrunnea, pedibus concoloribus.

Long. : 0<sup>m</sup> 0053—0<sup>m</sup> 006.

Subhémisphérique, convexe, luisante. Tête d'un rouge sombre mat sans taches, plus clair sur la partie antérieure de l'épistome et le labre ; palpes et antennes d'un roux foncé ; front densément ponctué. Corselet à côtés arrondis, finement rebordés, avec les angles antérieurs obsolètement sinueux à leur bord externe, les postérieurs arrondis, obtus, la base en arc de cercle large non sinueuse ; ponctuation fine, dense, surtout sur les côtés et nettement imprimée ; d'un rouge brunâtre avec les angles antérieurs étroitement tachés de blanchâtre. Ecusson plus large que long, d'un rouge brun. Elytres plus larges que le corselet à la base, arrondis aux épaules, sans rebord explané, régulièrement arrondis jusqu'à l'extrémité ; à ponctuation simple sur le disque, où elle est semblable à celle du corselet, formée sur le bord latéral de gros points serrés, parfois confluent, devenant plus épars et plus petits dans la moitié postérieure ; d'un noir luisant avec deux grosses taches d'un rouge vif : l'antérieure en forme de bande transversale ou légèrement oblique, à bords déchiquetés, étendue du quart à la moitié de la longueur, un peu plus éloignée du bord latéral que de la suture, présentant le long de cette dernière, à sa partie postérieure, un court prolongement couique atteignant au delà du milieu la seconde tache grande, irrégulièrement ovale, étendue en avant jusqu'au quart postérieur de la longueur, laissant une étroite bordure apicale d'égale largeur le long de la suture et du bord latéral de la couleur foncée.

Dessous d'un rouge brunâtre clair, avec les épimères des élytres noires.

Pieds concolores.

Salisbury, Mashonaland.

Les *Elpidia distigma*, *simoni* et *sanguinolenta* ont entre elles la plus grande analogie, et il ne serait pas impossible qu'elles soient simplement trois formes d'une seule et même espèce, mais je n'ai pas vu d'intermédiaires entre les trois. Elles présentent respectivement une grande ressemblance comme coloration avec les *Chilocorus distigma* Klng, *simoni* Sicard, et *sanguinolentus* Gorham; de là les noms que je leur ai donnés.

## 21. *Cydonia propinqua* Muls ab. *scapularis* nov.

Statura minore lineaque discali postice abbreviata tantum differt.

Long. : 0<sup>m</sup> 0038.

L'unique exemplaire sur lequel j'ai décrit cette variété m'a paru différer du type par une taille moindre; le dessin du corselet est le même ainsi que les bordures suturale et latérale des élytres; la ligne noire discale du type s'étend ici seulement jusqu'au quart de la longueur, en forme de trait partant de la partie moyenne de la base dans la direction de l'angle apical; ce trait est anguleusement dilaté en dehors pour atteindre le sommet du calus.

Cette forme ne m'a pas paru différer spécifiquement des exemplaires typiques de *C. propinqua*, mais je lui ai donné un nom parce qu'elle semble établir un passage avec le dessin de la *Cydonia grisha* Gorham.

## 22. *Exochomus gorhami* spec. nov.

Subrotundatus, alutaceus, supra niger, prothorace leviter aeneomicante; elytris guttis duabus pallide luteis, juxtalateralibus, ornatis; subtus niger. Epipleuris, elytrorum macula magna oblonga lutea instructis; pedibus nigris.

Long. : 0<sup>m</sup> 0032.

Subarrondi, ou en ovale très court, à peine atténué en arrière. Tête d'un noir luisant, très finement pointillée avec le canthus concolore. Palpes noirs, antennes brunâtres. Corselet d'un noir à reflet bronzé verdâtre foncé, alutacé, à côtés presque droits. Eusson petit, plus long que large. Elytres de la largeur du corselet à la base, régulièrement arrondis sur les côtés et un peu atténués en arrière, tombant droit sur les bords, mais avec la partie postérieure un peu prolongée et oblique à l'extrémité; alutacés; noirs avec une tache ovalaire d'un jaune pâle couvrant le septième moyen de la longueur et le cinquième de la largeur, près de trois fois aussi rapprochée du bord latéral que de la suture.

Dessous noir avec l'abdomen d'un noir brunâtre foncé et les épimères métathoraciques plus claires. Epipleures des élytres très inclinées, noires avec une tache d'un jaune pâle en forme de bordure large étendue de la base aux deux cinquièmes de la longueur.

Pieds noirs.

Mashonaland.

Cette espèce se place auprès de *E. hæmorrhoidalis* Thunb. (= *versutus* Muls), dont elle se distingue par sa taille plus petite, sa forme plus atténuée en arrière avec les élytres un peu relevés à l'extrémité et par son corselet concolore, sans tache jaune sur les côtés. Peut-être, les deux exemplaires que j'ai vus sont-ils des ♀ et le mâle a-t-il la tête jaune?

23. *Martinella undulata* spec. nov.

Rotundata, convexa, griseopubescens. Capite brunneo, palpis antennisque dilutioribus. Prothorace rufo macula brunnea parum distincta notato. Sentello rufo. Elytris rufis, explanatis, vittis undulatis tribus nigro brunneis notatis : prima basali, secunda media, antepicali, suturam nec marginem attingentibus. Subtus rufa : pedibus rufis.

Long. : 0<sup>m</sup>0032.

Arrondie et de même forme qu'un *Chilocorus*. Tête fortement inclinée d'avant en arrière, d'un brun foncé avec le front à ponctuation dense et bien marquée ; palpes et antennes rougeâtres. Corselet fortement rétréci en avant, les côtés coupés droits avec les angles antérieurs et postérieurs droits et bien marqués, la base en ogive arrondie au sommet ; à ponctuation fine, plus serrée sur les côtés ; d'un jaune rougeâtre avec une tache brune mal limitée sur le disque ; pubescence très courte et peu dense. Ecusson petit, roussâtre. Elytres à peine plus larges que le corselet à la base, leur angle huméral n'étant pas situé dans le même plan que l'angle postérieur de ce dernier ; arrondis sur les côtés, à peine atténués en arrière, à bords inclinés, à pubescence assez grosse, courte et peu dense, à ponctuation plus grosse que celle du corselet et très dense ; d'un jaune rougeâtre pâle avec trois bandes ondulées transversales d'un noir brunâtre : la première en forme de croissant dont le côté interne couvrirait le sixième antérieur de la suture, dont la convexité atteindrait la base et dont le côté externe passerait sur le calus huméral, la partie médiane étant plus étroite que les deux extrémités : la seconde bande partant du milieu de la suture, anguleuse, dirigée d'abord d'arrière en avant jusqu'aux deux cinquièmes de la largeur, puis en arrière sans atteindre le bord latéral : la troisième bande antepicale, en forme de croissant à concavité interne dont la branche interne se prolonge le long de la suture jusqu'à la 2<sup>e</sup> bande et dont la branche externe rejoint ou presque l'extrémité de cette dernière.

Dessous d'un roux clair avec les fémurs plus ou moins rembrunis.

Natal.

Cette espèce se distingue facilement de la *Martinella justitiae* Gorham (= *sellata* Sicard) par son dessin.

24. *Lotis ovata* spec. nov.

Breviter ovalis, convexa, nigra ; nitida. Elytris guttis duabus sat magnis rubris in disco sitis, fere aequalibus, notatis ; subtus nigra ; pedibus nigris, tarsis rufescentibus.

Long. : 0<sup>m</sup>0018.

En ovale court, régulièrement convexe, d'un noir brillant. Tête noire, alutacée, avec les palpes et les antennes de même couleur et les mandibules brunâtres. Corselet convexe, noir, finement rebordé à sa partie antérieure, très faiblement rétréci en avant ; ponctuation extrêmement fine, visible seulement à un fort grossissement, avec de petits points superficiels très denses et quelques gros points enfoncés. Elytres à ponctuation beaucoup plus fine que celle du corselet, simple ; à calus huméral obsolète, de la largeur du corselet à la base ; en ovale régulier jusqu'à l'extrémité et munis d'un très fin rebord continu et parallèle ; d'un noir luisant avec deux taches d'un jaune orangé assez grosses : la première située sur

le second cinquième de la longueur, couvrant à peu près le quart ou un peu plus de la largeur, à peu près arrondie, très légèrement plus rapprochée du bord latéral que de la suture ; la seconde située des deux tiers aux cinq sixièmes de la longueur, couvrant à peu près le tiers de la largeur, légèrement plus rapprochée de la suture que du bord latéral.

Dessous d'un noir profond.

Pieds noirs avec les tarses roussâtres.

Montagne de la Table, Cap.

La forme ovulaire de cette espèce la distingue de toutes les autres. Elle est plus petite que la *distincta* Cas. dont la rapproche la couleur noire du dessous, les taches sont plus grosses et autrement placées que celles de la *stigmatica* Casey. Cette dernière me semble être d'ailleurs la véritable *neglecta* Muls. Celle indiquée sous ce nom par Mr. Casey serait la *collaris* Weise.

### 25. *Hyperaspis multicolor* spec. nov.

Breviter ovalis, convexa, nitida. Capite rufo (? ♂) vertice nigro ; palpis antennisque rufis. Prothorace nigro, nitido, subtilissime punctulato, lateribus albo limbatis. Scutello nigro, punctato. Elytris rotundatis, subtiliter punctulatis, nitidis, nigris, macula transversa rubra ornatis. Subtus nigra ; pube grisea vestita, epimeris rufis. Epipleuris prothoracis tenue albo limbatis, elytrorum nigris. Pedibus nigris ; tibiis anticis et intermediis apiceque femorum obscure rufis.

Long. : 0<sup>m</sup> 003.

Eu ovale très court et très convexe. Tête d'un roux clair (probablement noire chez la ♀) avec le vertex noir ; la couleur noire obliquement avancée de chaque côté jusqu'au quart postérieur de l'œil. Antennes et palpes roux ; corselet d'un noir luisant très convexe, à ponctuation très fine et très régulière, étroitement bordé de blanc sur les côtés, cette bordure arrondie en arrière en atteignant l'angle postérieur, un peu anguleusement avancée à sa partie antérieure jusqu'à la sinuosité postoculaire. Ecusson noir, à ponctuation plus forte que celle du corselet. Elytres de même largeur que le corselet à la base, régulièrement arrondis sur les côtés, séparément à l'extrémité en formant un angle rentrant à la suture ; à ponctuation semblable à celle du corselet, à calus huméral obsolète ; d'un noir luisant avec une tache transversale rouge, couvrant environ du tiers à la moitié de la longueur et presque le tiers de la largeur, légèrement plus rapprochée de la suture que du bord latéral.

Dessous noir avec les épimères rousses. Epipleures du prothorax étroitement bordées de blanc, celles des élytres noires.

Pieds noirs avec les tibias antérieurs et intermédiaires et l'extrémité des fémurs des mêmes paires de pattes d'un fauve roussâtre (la ♀ a probablement les pattes entièrement noires).

Salisbury, Mashonaland.

### 26. *Ortalia ochracea* ab. *rosea* nov.

Elytris roseis nec fulvis a typo differt.

Parmi d'assez nombreux exemplaires d'*Ortalia ochracea* Weise, quelques-uns ont présenté une coloration élytrale d'un beau rose au lieu du jaune flave habituel. Pour tous les autres caractères, ces insectes sont absolument semblables aux exemplaires à couleur normale.

27. *Ortalia punctata* Weise, ab. *octonotata* nov.

Macula quarta (juxtasaturali postica) elytrorum deficiente tantum differt.

Cette variété diffère de l'*O. punctata* Weise par l'absence de la tache juxtasaturale postérieure (l'interne de la rangée antécapitale), ce qui réduit le nombre des taches à quatre sur chaque élytre : 1. 2. 1.

Katanga.

Chez quelques exemplaires de Matopo Hills (Rhodesia) cette tache est très petite, mais encore distincte.

28. *Ortalia X-signata* spec. nov.

Breviter ovalis, pube albida tenne vestita, nitida. Capite flavo; antennis palpisque concoloribus. Prothorace flavo maculis nonnullis obsolete luteis ornato. Scutello rub. Elytris flavis, litura brunnea juxtasaturali litteram X figurante signatis. Subtus flava albidopubescentis. Pedibus flavis.

Long. : 0<sup>m</sup> 0035.

En ovale court et régulier, couverte d'une pubescence blanchâtre assez courte et peu dense ne masquant pas l'aspect luisant du dessus. Tête d'un flave blanchâtre avec les palpes et les antennes de même couleur. Yeux gris. Corselet flave à côtés légèrement incurvés à leur partie antérieure, un peu rétréci en avant, avec la base en arc de cercle large et les angles postérieurs obtus et bien marqués; on distingue à peine quelques taches petites, vaguement nébuleuses, presque indistinctes, un peu plus jaunâtres ou brunâtres que le fond et qui semblent être au nombre de sept : trois à la base dont une antécapillaire et quatre sur le disque en rangée transversale, les deux médianes contiguës, les autres près du bord latéral. Écusson d'un roux un peu plus foncé que le corselet. Elytres un peu plus larges que le corselet à la base, presque parallèles jusqu'aux deux tiers de la longueur, en cercle large à l'extrémité; à ponctuation très fine, très superficielle et très dense; d'un flave pâle avec une étroite bande brune, étendue le long de la suture, de la base aux trois quarts de la longueur, s'élargissant pour s'incurver en dehors en avant et en arrière : en avant, elle suit le bord externe de l'écusson et atteint la base jusqu'aux deux tiers externes, où elle revient en arrière (sa partie externe couvrant le calus huméral) en suivant le bord latéral dont elle reste éloignée d'une distance un peu moindre que sa propre largeur, jusqu'au tiers antérieur; en arrière elle s'incurve en dehors en suivant la courbure postérieure de l'élytre dont l'extrémité reste largement blanche et remontant le long du bord latéral à la même distance que la bande antérieure, qu'elle n'atteint pas, et jusqu'aux deux cinquièmes; le dessin présente ainsi sur l'élytre droit la forme d'un C dont les branches transversales seraient plus larges que la branche verticale interne. Sur les deux élytres, il prend la forme d'un X.

Dessous d'un flave blanchâtre, un peu plus roux sur la poitrine et le milieu de l'abdomen avec les pieds de même couleur.

Rivière Mpudzi, Mashonaland.

29. *Aulis sharpi* spec. nov.

Oblonga, longe pubescens, nigra obscure rubronotata. Capite nigro; prothorace nigropubescente; elytris nigris, maculis tribus limboque laterali postice abbreviato, in medio dilatato, nigris.



Long. : 0<sup>m</sup> 0035.

Oblongue, près de trois fois aussi longue que large, très pubescente. Tête noire avec les palpes foncées et les antennes à premiers articles rougeâtres. Corselet noir, finement ponctué, à pubescence jaunâtre longue, uniforme, cachant la couleur foncière. Ecusson grand, noir. Elytres noirs, à ponctuation double, difficilement visible à cause de la pubescence qui les fait paraître grisâtres, avec trois taches d'un rouge rosé et une bordure latérale dilatée au milieu, raccourcie en arrière, de même couleur. La première tache couvrant du huitième à un peu moins du tiers de la longueur, ovale, éloignée de la base d'une distance égale à peu près à la moitié de sa longueur et un peu plus rapprochée de la suture, la deuxième tache vers les trois cinquièmes de la longueur, en arrière de la première, arrondie, plus petite, plus rapprochée de la suture : la tache 3 antéapicale, transversale, en croissant à convexité antérieure, aussi éloignée de la suture que du bord latéral ; la bordure étroite, partant de la base, qu'elle n'atteint pas tout à fait, étendue jusqu'après le milieu, dilatée un peu avant sa terminaison en forme de courte bande transversale étendue jusqu'au milieu de la largeur de l'élytre.

Dessous noir, pieds noirs.

Salisbury, Mashonaland.

Le dessin de cette espèce rappelle absolument celui de *Aulis gorhami* Weise, mais elle en diffère par sa taille plus petite, sa forme plus étroite, la pubescence uniforme de son corselet. Chez *Aulis ruwenzorica* Weise, dont la taille est analogue, le corselet est bordé de rouge.

### 30. *Cranophorus guttatus* spec. nov.

Oblongus, parum convexus, griseopubescent. Capite rufo ; prothorace brunneo late flavocincto. Elytris brunneis, lateribus dilutioribus, guttis 4 (2.2 in singulo positis) apiceque luteis ; subtus brunnescentibus ; pedibus brunneis, femoribus anticis flavescensibus.

Long. : 0<sup>m</sup> 0015.

Ovale oblong, atténué en arrière, peu convexe, à pubescence blanchâtre. Tête rousse, cachée par le corselet, avec les antennes et les palpes plus claires. Corselet luisant, arrondi au bord antérieur en ogive large, avec les angles postérieurs droits, bien marqués, à ponctuation obsolète, à pubescence très courte et très clairsemée, visible seulement à un fort grossissement, d'un brun noirâtre passant au roux sur le tiers externe avec l'extrême bord antérieur transparent. Ecusson petit, plus long que large, noirâtre. Elytres de la largeur du corselet à la base, oblongs, atténués en arrière, ayant vers le tiers antérieur leur plus grande largeur, sans rebord latéral, à calus huméral obsolète, à ponctuation plus grosse que celle du corselet, mais fine et dense, à pubescence assez longue, mais clairsemée, bien visible en regardant l'insecte de côté et obliquement d'avant en arrière ; d'un brun foncé avec les côtés d'un brun plus clair et l'extrémité apicale graduellement jaune ; quatre taches sur chacun de même couleur, disposées sur deux rangs (2.2.). Tache 1 du tiers au milieu de la longueur, arrondie, rapprochée de la suture d'une distance égale au tiers de son diamètre ; 2 contiguë à la première, mais ovale, un peu plus longuement prolongée en arrière et de même largeur ; 3 aux trois cinquièmes, en arrière de 1, ovale et plus petite ; 4 un peu en arrière de 3,

à égale distance entre celle-ci et le bord latéral, ces taches formant avec leurs pareilles deux rangées convexes en avant.

Dessous du corps d'un brun clair avec les pieds roussâtres, les quatre fémurs postérieurs rembrunis.

Mts. Umkomaas, Natal.

Cette petite espèce est bien distincte de toutes les autres par son système de coloration.

### 31. *Pullus guttulatus* spec. nov.

Rotundatus, tenue pubescens, niger, elytris, singulo, guttis duabus parvis, rotundatis, discoidalibus, ornatis. Subtus brunneo-niger, abdomine dilutiore. Femoribus nigris (♂ anterioribus flavis) tibiis tarsisque luteis.

Long. : 0<sup>m</sup> 0023.

Subarrondi, convexe, luisant, couvert d'une fine pubescence grisâtre peu dense. Tête noire, densément et assez profondément ponctuée avec le labre jaunâtre chez le ♂. Antennes et palpes roux. Corselet à côtés presque droits, peu rétréci en avant, luisant, ponctué, à pubescence fine, uniformément noir. Ecusson en triangle équilatéral noir. Elytres arrondis, très convexes, à calus huméral petit et saillant, à ponctuation très nette et dense, à pubescence fine, grisâtre, peu dense et assez longue, noirs avec deux petites taches jaunes arrondies, d'égale grosseur, la première à la partie interne et postérieure du calus huméral dont elle atteint à peu près le sommet, couvrant environ le sixième de la largeur ; la seconde aux trois quarts de la longueur, un peu transversale, plus éloignée du bord externe que de la suture, dont elle est séparée par une distance égale à son propre diamètre.

Dessous d'un brun noir, un peu moins foncé sur l'abdomen. Carènes du prosternum limitant un espace luisant, fortement convergentes, se rejoignant en angle aigu en avant et formant une courte carène unique jusqu'au bord antérieur ; plaques abdominales en arc de cercle légèrement anguleux au sommet, à branche externe plus oblique que l'interne, atteignant les quatre cinquièmes de l'arceau.

Fémurs noirs (♀) ou avec les antérieurs jaunâtres (♂). Genoux, tibias et tarsi testacés.

Cap : Mashonaland.

### 32. *Pullus marshalli* sp. nov.

Subovatus, convexus, griseopubescens. Capite rufo-brunnea, antennis palpisque dilutioribus. Prothorace brunnescente, lateribus rufescentibus, elytris nigris apice late rufis. Subtus niger, prosterno, abdominis segmentis 4 ultimis ratis, primo brunneo; pedibus late rufis.

Long. : 0<sup>m</sup> 0017.

En ovale court, convexe et couvert d'une pubescence grisâtre assez longue. Tête d'un roux un peu rougeâtre avec les palpes et les antennes plus claires. Corselet de la même couleur sur les côtés avec le disque graduellement un peu rembruni ; légèrement rétréci en avant, à côtés presque droits, à ponctuation fine et superficielle, luisant. Ecusson petit, rougeâtre. Elytres ovales, à calus huméral petit et saillant, à ponctuation plus forte que celle du corselet, noirs avec l'extrémité largement d'un jaune rougeâtre, cette couleur couvrant le tiers postérieur

du bord latéral et le quart de la suture, limitée par une ligne convexe en avant sur chaque élytre.

Dessous noir, avec le prosternum et le ventre ronz, sauf le premier arceau, qui est brunâtre. Carènes du prosternum très légèrement convergentes, peu élevées, non réunies à la partie antérieure. Plaques abdominales en arc régulier, atteignant à peu près les trois quarts de l'arceau.

Pieds ronz.

Cette espèce a la forme du *Sc. globosus* Weise. Elle se distingue de toutes les autres espèces sud-africaines de *Pullus* par son corselet entièrement rougeâtre, qui doit être d'un rouge plus vif chez le ♂. Les deux exemplaires que j'ai examinés sont deux ♀. Le *P. deyrollei* qui pourrait être confondu avec elle diffère par l'extrémité des élytres noire, le disque seul étant rougeâtre sur la seconde moitié.

Natal; Mashonaland.

### 33 and 34. *Pullus thiolierii* ab. junior nov.

Maculis elytrorum confluentibus.

ab. *didymus* nov.

Macula anteriori minuta, parum distincta.

Parmi un certain nombre d'exemplaires de *P. thiolierii* Muls récoltés au Mashonaland et au Natal par Mr. Marshall, j'ai trouvé les deux variétés ci-dessus différant du type : la première par la réunion sur le disque de l'élytre, des deux taches claires qui forment ainsi une bande brune, rétrécie dans son milieu, étendue en avant jusqu'au calus, couvrant les deux tiers de l'élytre en laissant la suture étroitement noire et terminée en arrière par une tache jaunâtre ; la deuxième par la petitesse de la première tache, qui forme un point brunâtre peu distinct en dedans du calus.

### 35. *Pullus morelleti* ab. *cinctus* nov.

Limbo laterali lato, postice limbo suturali connexo, apice elytrorum rufo.

Tous les exemplaires recueillis par Mr. Berins au Rocher de la Table ainsi qu'un exemplaire recueilli par Mr. Marshall à Massikewi ont la bordure latérale noire, large, prolongée jusqu'à la suture, où elle s'unit à la bordure suturale commune, si bien que les élytres sont noirs avec une grande bande un peu oblique et une étroite bordure apicale ronzes. Cette variété est indiquée d'ailleurs par Mulsant.

### 36. *Scymnus rosenhaueri* Muls.

Les exemplaires ♂ récoltés par Mr. Marshall ont la bordure prothoracique flave bien nette et prolongée jusqu'à la base. La description de Mulsant semble avoir été faite sur un individu foncé ou fermenté.

### 37. *Pharoscyms pictus* spec. nov.

Rotundatus, parum convexus, griseopubescens. Capite rufo, antennis palpisque luteis; prothorace obscure fulvo; elytris nigris, vitta longitudinali postice abbreviata, maculis tribus, limboque laterali luteis ornatis. Subtus rufescens. Pedibus flavescens.

Long. : 0<sup>m</sup> 002.

Arrondi, peu convexe, à pubescence grisâtre clairsemée. Tête d'un roux brunâtre, luisante, finement ponctuée avec les palpes et les antennes jaunes; prothorax jaune à côtés arrondis, à base en arc de cercle large, assez longuement pubescent, à ponctuation très fine. Elytres de la largeur du prothorax à la base, régulièrement arrondis, à ponctuation très fine et peu dense, à pubescence longue et clairsemée, noirs avec une bordure latérale, trois taches et une bande longitudinale jaunes. La bordure couvrant le cinquième de la base environ, rétrécie aux deux tiers de sa longueur, puis graduellement et faiblement élargie jusqu'à l'angle sutural; la bande juxtasuturale couvrant le tiers interne de la base, parallèle, prolongée jusqu'aux trois cinquièmes, où elle se termine en pointe mousse, en s'écartant un peu de la suture qui reste plus ou moins étroitement noire ou brunâtre sauf tout à fait à la base, où les deux bandes se touchent, celles-ci de couleur plus claire à l'extrémité qu'à la base. La tache 1 du septième au tiers de la longueur, arrondie et légèrement ovalaire, contiguë à la bordure en dehors, à la bande juxtasuturale en dedans; la tache 2 au milieu de la longueur, de même taille et de même forme que 1, plus rapprochée de la bordure latérale que de la bande juxtasuturale; 3 aux trois quarts de la longueur, près de la suture, en ovale oblique, postérieure à la bande juxtasuturale et également éloignée de celle-ci en avant, de la bordure apicale en arrière.

Dessous brunâtre avec les pieds plus clairs.

Salisbury, Mashonaland.

Cette espèce à peu près la taille et la forme du *Ph. setulosus* Chevr.; elle est moins convexe; son dessin très particulier ne permet de la confondre avec aucune autre. Le *Ph. rouzeti* Muls. est oblong et n'a que deux taches et une bordure rousse; le *Ph. 4-stillatus* Muls. est noir à deux taches jaunes; le *Ph. papei* Weise est noir avec une bande jaune sur les élytres.

---

## THE BIRDS OF YUNNAN.

By COLLINGWOOD INGRAM.

## INTRODUCTION.

IN the summer of 1910 Mr. Alan Owston sent a Japanese collector to Southern Yunnan, S.W. China. It seems that this man got together a fairly large and representative collection of birds' skins, but, unfortunately, the majority of these fell into dishonest hands and only a small proportion reached their rightful owner. The few hundred specimens received by Mr. Owston—and afterwards generously placed at my disposal—form the nucleus of the present paper. These birds, with Mr. Rothschild's kind permission, I have named and compared at the Tring Zoological Museum, where this collection is now placed.

With the idea of making the list of the birds of this province as complete and as useful as possible, I have decided to add all the species met with by previous collectors. In this work I have been materially assisted by Mr. Wells, of the Natural History Museum; in fact, he is largely responsible for the data relating to Colonel Rippon's skins and for the naming of many of his specimens, all of which are now preserved in the National Collection. Other birds have been included on the authority of the following writers: Dr. J. Anderson (*Zoological Results of the two Expeditions to Western Yunnan: Aces*, London, 1878); Mr. Ogilvie-Grant ("On the Birds collected by Capt. A. W. S. Wingate in South China," *Ibis*, 1900, pp. 573 *et seq.*); and finally, M. E. Oustalet (*Bulletin du Muséum d'Histoire Naturelle*, Paris, 1896, 1897, 1898; and *Nouvelles Archives du Muséum d'Histoire Naturelle*, 1901). Unfortunately, Oustalet gives no dates or localities in his short "Note sur les Oiseaux recueillis dans le Yunnan par le Prince Henri d'Orléans, dans le cours de son dernier voyage du Tonkin aux Indes" (*Bull. Mus. Paris*, 1896, p. 183). This is much to be regretted, for the Prince did not confine his energies to Yunnan alone. There is, however, little doubt that in the paper cited above Oustalet intends to refer solely to the species collected in the province under notice, for he adds: "En ajoutant ces 90 espèces aux 115 espèces qu'Anderson avait rencontrées précédemment dans l'ouest de la même province, nous obtenons un total de 205, chiffre déjà considérable, mais qui ne représente certainement pas encore la totalité de la faune ornithologique du Yunnan."

It will be seen that Oustalet's surmise was perfectly correct, and his total of 205 has already grown to 352, and it is quite certain that this figure will be further increased when the country becomes more "opened up" and other collections are brought together.

But Yunnan is still a comparatively little known land, for not only is it extremely mountainous, and consequently difficult to travel over, but the inhabitants in many districts are notoriously hostile and strongly resent any attempt to explore their territory.\* In the extreme north-west corner of the province the summits of the ranges are said to rise to 15,000 or 20,000 ft. above the sea-level and the lowest river valleys are 7,000 ft. From here the heights decrease fairly regularly

\* Mr. Owston's collector was very roughly handled, and but narrowly escaped with his life.

till the hill-tops run down to as low as 5,000 ft. in the south of Yunnan. The eastern half of the province is somewhat less mountainous, and here the country is more of the nature of a plateau, plains are more numerous, and many of them contain lakes of considerable extent (cf. Major Davies' *Yun-nan*). From June to September inclusive there is seemingly a heavy rainfall in all but the northern portions of the province.

The sheltered valleys, mostly running north and south, are said to contain a rich tropical vegetation (cf. Franchet, *Bull. Mus. Paris*, 1896, p. 149), so that it is hardly surprising to find the avifauna of Southern Yunnan approaching that of the adjoining countries, Burma and Tonkin; while the birds met with in the north of the province are naturally not unlike those of Tibet and the connecting Himalayan chains.

The name in parentheses after the entry of each species indicates the collector or the collection in which the example may now be found.

1. **Francolinus chinensis** (Osbeck).

Salwin Valley, W. Yunnan, 1. v. 06. (Rippon).

Also obtained by Wingate, Ching-tung, Yunnan, March 8, 1899 (cf. *Ibis*, 1900, p. 605).

2. **Ithagenes cruentus** (Hardw.).

Cited by Oustalet as having been obtained by Prince Henry of Orleans in Yunnan (*Bull. Mus. Paris*, 1896, p. 185).

Sharpe (*Handl.* i. p. 33) gives "Himalayas, Nepal to Bhutan and Thibet" as its range.

3. **Tragopan temmincki** (J. E. Gray).

Also said to have been taken by Prince Henry of Orleans in Yunnan (*op. cit.*).

4. **Pucrasia meyeri** Mad.

Obtained by Prince Henry of Orleans (*op. cit.*), probably in the valley of the Upper Mekong (N.W. Yunnan).

5. **Gennaeus andersoni** (Elliot).

Mentioned in Oustalet's list of the birds collected in Yunnan by Prince Henry of Orleans (*op. cit.*).

As Sharpe (*Handl.* i. p. 36) gives the Kachin Hills as the only habitat of this bird, it is probable that the Prince's specimens (if they came from Yunnan at all) were obtained in the extreme north-west of that province.

6. **Gennaeus nycthemerus** (Linn.).

♂ ad. : S.W. Yunnan, April 1899 (Wingate).

7. **Bambusicola fytchii** Anders.

Anderson, *Western Yunnan*, ii. p. 673, pl. liv.

Anderson states (*op. cit.*) that in March 1868 this bird was to be found on the old rice clearings on the hillsides at Pensee, near the Burmese frontier.

8. **Phasianus elegans** Elliot.

*Phasianus sladeni* Anderson, *Western Yunnan*, ii. p. 671.

From a coloured sketch sent home by Mr. Owston's collector, it seems that this pheasant occurs also near Mongtse, in the south of the province.

9. **Calophasis burmanicus** Oates.

Chutung Yangpi Road, 21.iii.02 (Rippon).

The single specimen in the British Museum has been wrongly identified as *C. ellioti*; it is without doubt a female of *C. burmanicus*.

10. **Chrysolophus amherstiae** Lealb.

♀ ad.; Ching-tung, Yunnan, March 1899 (Wingate).

Anderson also met with this handsome species on the hills between Sanda and Momien (cf. *Western Yunnan*, p. 674).

11. **Gallus ferrugineus** Gmel.

*Gallus ferrugineus* Anderson, *Western Yunnan*, ii. p. 669.

Anderson shot one in W. Yunnan on March 13, 1868 (*op. cit.*).

Capt. Wingate also procured this bird at Wei-yuan, S. Yunnan, on March 15, 1898 (cf. *Ibis*, 1900).

12. **Turnix pugnax taigoor** Sykes.

*Turnix plumbeipes* Anderson, *Western Yunnan*, ii. p. 673.

A single specimen from Mnangla, 16.vii.68 (Anderson).

13. **Carpophaga badia** (Raffl.).

Capt. Wingate obtained an adult specimen in S.W. Yunnan in April 1899 (cf. *Ibis*, 1900, p. 605).

14. **Sphenocercus sphenurus** (Vig.).

15. **Columba leuconota** Vig.

16. **Columba hodgsoni** (Vig.).

All three species obtained by Prince Henry of Orleans (cf. *Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 185).

17. **Turtur orientalis** Latham.

Anderson, *Western Yunnan*, p. 666.

According to Anderson (*op. cit.*) this species is common in W. Yunnan.

18. **Turtur humilis** (Temm.).

♂ ♀; Mongtse, S. Yunnan, April 1910 (Owston).

19. *Turtur chinensis* (Scop.).

♂ ♀; Mongtse, Yunnan, April, June 1910 (Owston).

These agree with *T. chinensis* fairly well, but have indications of dark median streaks on the upper wing-coverts, and in one example the under tail-coverts are almost white; in fact, they appear intermediate between *T. chinensis* and *tigrinus*. I understand there is a specimen identified as *tigrinus* in the British Museum from Lichiang, collected by Rippon, but I have not been able to examine this bird.

Anderson likewise identified the birds obtained by him in Western Yunnan as *T. tigrinus* (cf. *Western Yunnan*, ii. p. 665).

20. *Hypotaenidia striata* subsp.?

♂ ♀; Mongtse, S. Yunnan, May 1910 (Owston).

Anderson states that this Rail is common in the Sanda Valley, W. Yunnan (cf. *Western Yunnan* ii. p. 692).

I have not been able to decide whether *jouyi* and *gularis* are separable, but in any case I cannot agree with Dr. Sharpe when he unites these forms with the typical Philippine bird, *H. striata*. The latter is certainly distinguishable from the races found in Formosa, Java, and on the mainland, being a smaller bird with darker plumage.

21. *Porzana pusilla auricularis* (Reichenb.).

4 ♂♂, 1 ♀; Mongtse, S. Yunnan, May 4-23, 1910 (Owston).

May 23 is probably a late date to find this bird so far south. Sharpe (*Handlist*, vol. i. p. 102) states that it is a winter visitant to China, the Philippine Islands, and the Indian Peninsulas.

22. *Porzana bicolor* Walden.

Lichiang Valley, W. Yunnan, 10. iv. 06 (Rippon).

Sharpe (*Handlist*, vol. i. p. 102) gives E. Himalayas to Manipur as the range.

I have not examined the above-mentioned specimen, but Mr. Wells, of the British Museum, informs me that it agrees exactly with typical examples of *P. bicolor*.

23. *Limnobaenus fuscus* (Linn.).

2 ♂♂; Mongtse, S. Yunnan, May 1910 (Nos. 178, 194), (Owston).

Obtained also in Sanda Valley and at Momiin, W. Yunnan, by Anderson in June 1868.

24. *Amaurornis phoenicura* (Forster).

Shayang, Yangchang Road, 27. iv. 06 (Rippon).

Taken also by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 185).

25. *Gallinula chloropus orientalis* Horsf.

*Gallinula chloropus* Anderson, *Western Yunnan*, ii. p. 692.

2 ♀♀; Mongtse, S. Yunnan, May 1910 (Nos. 142, 146), (Owston).

The Moorhen is stated by Anderson to be common in Western Yunnan (*op. cit.*).



26. **Podiceps fluviatilis philippensis** (Bonn.).

*Podiceps philippensis* Anderson, *Western Yunnan*, p. 702.

Anderson (*op. cit.*) asserts that this species is common at the foot of the Kakhyer Hills and at Momien (W. Yunnan).

27. **Sterna melanogaster** Temm.

*Sterna javanica* Anderson, *Western Yunnan*, p. 694.

A single specimen, Mnaugla, 18. v. 68 (Anderson).

28. **Larus gelastes** Thienem.

Talifu Valley, W. Yunnan, 15. ii. 06 (Rippon).

29. **Sarcogrammus atrinuchalis** (Jerd.).

Talifu Valley, W. Yunnan (Rippon).

30. **Microsarcops cinereus** (Blyth).

♂ ; Yunnan City, E. Yunnan, 7. ii. 99 (Wingate).

31. **Hoplopterus ventralis** Wagl.

Anderson, *Western Yunnan*, p. 675.

A single specimen, Mnaugla, W. Yunnan, 21. v. 68 (Anderson).

32. **Charadrius dominicus fulvus** Gm.

Recorded by Oustalet as having been obtained by Prince Henry of Orleans in Yunnan (cf. *Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 185).

33. **Charadrius dubius** (Scop.).

Anderson, *Western Yunnan*, p. 676.

Three specimens from Mnaugla, W. Yunnan, 22. v. 68 (Anderson).

34. **Tringa fusca** (Linn.).

2 ♂♂ ; Mongtse, S. Yunnan, May 1910 (Owston).

Both in black breeding plumage.

35. **Tringa ocropus** Linn.

Lichiang Valley, W. Yunnan, 6. iv. 06 (Rippon).

36. **Tringa hypoleuca** (Linn.).

Chutung Valley, 17. iii. 02 (Rippon).

Talifu Valley, 16. iv. 02 (Rippon).

Also represented in Prince Henry of Orleans' Yunnan collection (Oustalet, *Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 185).

37. **Gallinago solitaria** Hodgs.

Yangtse big bend, 17. iii. 06 (Rippon).

Lichiang Valley, 10. iv. 06 (Rippon).

[Major Davies, in his work on Yunnan, mentions having shot a Woodcock (*Scelopax rusticola*) in the extreme north of the province.]

38. **Gallinago gallinago** (Linn.).

Near Yunnan City, E. Yunnan, 1. ii. 99 (Wingate).

39. **Rostratula capensis** (Linn.).

*Rhynchaea bengalensis*, Anderson, *W. Yunnan*, p. 683.

3 ♂♂, 1 ♀; Mongtse, S. Yunnan, May 1910 (Owston).

♂; Momien, 4. vi. 68 (Anderson).

40. **Grus grus** (Linn.).

♂; Near Yunnan City, E. Yunnan, 7. ii. 99 (Wingate).

41. **Grus nigricollis** Irjev.

♂; near Yunnan City, 1. ii. 99 (Wingate).

42. [**Grus collaris** Bodd.

Anderson (*West Yunnan* ii. p. 684) states that he saw numbers of these birds passing over his camp at Poonsee in the direction of the Burmese valley, but he did not secure a specimen.]

43. **Graphocephalus davisoni** (Hume).

♂ ad.; S.W. Yunnan, April 1899 (Wingate).

44. **Ciconia nigra** Linn.

♂; near Ching-tung, 9. iii. 99 (Wingate).

45. **Garzetta garzetta** (Linn.).

♂ ad.; Yuan-chu, Wu-ho River, W. Yunnan (Wingate).

Also observed by Anderson near Muangla (cf. *W. Yunnan*, ii. p. 698).

46. **Herodias intermedia** Wagler.

Anderson mentions having seen this Egret near Muangla in May 1868 (cf. *Western Yunnan*, ii. p. 698).

47. **Ardeola bacchus** (Bp.).

♂ imm.; near Yunnan City, E. Yunnan, 7. ii. 98 (Wingate).

48. **Butorides javanica javanica** (Horsf.).

♂; Mongtse, S. Yunnan, May 1910 (Owston).

49. **Ardetta sinensis** (Gm.).

♂ ; Mongtse, S. Yunnan, May 1910 (Owston).

50. **Bubulcus coromandus** (Bodd.).

*Buphus coromandus*, Anderson, *Western Yunnan*, p. 688.

Three specimens ; Muangla, W. Yunnan, 18, 19, and 22 May, 1868 (Anderson).

51. **Ardetta cinnamomea** (Gm.).

♂ ; Mongtse, S. Yunnan, May 1910 (Owston).

Sanda, 28. vii. 68 (Anderson).

The Mongtse bird is somewhat darker cinnamon on the underside and has a rather shorter bill than the average *cinnamomea*.

52. **Nettopus coromandelianus** (Gm.).

♂ ; Mongtse, S. Yunnan, May 1910 (Owston).

53. **Tadorna casarca** (Linn.).

Anderson, *Western Yunnan*, p. 699.

Stated by Anderson to be common in the Sanda valley, W. Yunnan (*op. cit.*).

54. **Anas platyrhyncha platyrhyncha** L.

♂ ; Talifu Valley, 13. ii. 96 (Rippon).

55. **Merganser merganser** (Linn.).

Talifu, W. Yunnan, 5. ii. 96 (Rippon).

56. **Phalacrocorax javanicus** Steph.

*Phalacrocorax pygmaeus*, Anderson, *Western Yunnan*, p. 697.

Anderson says (*op. cit.*) that this bird was very common in the Sanda Valley, and that at Muangla (W. Yunnan) on May 22, 1868, it was occupying a large tree along with *G. gazetta* and *H. intermedia*.

[In Major Davies' work on Yunnan there is a photograph of Cormorant fishers in the Chien-ch'ang Valley, proving that these birds are used by the Yunnanese for fishing purposes. In the *Field* (December 1908) I have fully described the methods employed in Japan for using these birds on swift-running streams.]

57. **Circus melanoleucus** (Forster).

Anderson, *Western Yunnan*, p. 572, pls. xlv. and xlvi.

A single immature specimen, Muangla, W. Yunnan, May 1868 (Anderson), p. 245.

58. **Circus cyaneus** (Linn.).

Capt. Wingate procured specimens in S.W. Yunnan, April 1899 (cf. *Ibis*, 1900, p. 600).

59. **Accipiter nisus** (Linn.).

♂ ; Mongtse, S. Yunnan, April 1910 (Owston).

♀ ad. ; S.W. Yunnan (Wingate).

Also obtained by Prince Henry of Orleans (Oustalet).

60. **Buteo plumipes** (Hodgs.).

Capt. Wingate obtained an adult male near Yunnan City on February 5, 1899 (cf. *Ibis*, 1900, p. 601).

61. **Elanus caeruleus** (Desf.).

Anderson, *Western Yunnan*, p. 572.

♂ ; Momien, 6. vi. 68 (Anderson).

♂ ad. ; near Yunnan City, 6. ii. 99 (Wingate).

62. **Milvus melanotis** Temm. and Schl.

Anderson, *Western Yunnan*, p. 574.

♂ juv. ; Momien, 23. vi. 68 (Anderson).

♀ imm. ; Momien, 7. vii. 68 (Anderson).

63. **Falco subbuteo streichi** Hart. and Neum.

*Falco subbuteo streichi* Hart. and Neum., *J. f. O.* 1907. p. 592.

*Falco subbuteo* Anderson, *Western Yunnan*, ii. p. 569.

Apparently breeding near Momien, as Anderson (*op. cit.*) says he obtained a young specimen from that place in June. Doubtless referable to this form.

64. **Cerchneis tinnunculus japonicus** (Temm. and Schl.).

*Falco t. japonicus* Temm. and Schl. *Faun. Jap. Aes.*, p. 2. pls. 1. 1 B.

♀ ; Mongtse, S. Yunnan, April 1910 (Owston).

This female agrees well with Japanese specimens. The birds collected by Prince Henry of Orleans, and described as *C. tinnunculus* by Oustalet, in all probability also belong to this race (cf. *Bull. Mus. Paris*, 1896, p. 184).

65. **Cerchneis saturata** Blyth.

*Cerchneis saturata* Blyth, *J. L. S. B.* xxviii. p. 277 ; id. *Ibis*, 1866, p. 238.

♂ in moult ; Mongtse, S. Yunnan, July 1910, No. 309 (Owston).

♂ juv. ; Momien, June 1868 (Owston).

Compared with European specimens this example is rather dark, and has blacker quills ; it may belong to *saturata* of Blyth. An adult male obtained by Wingate near Yunnan City, February 6, 1899, was also thought by Mr. Ogilvie Grant to belong to this form (cf. *Ibis*, 1900, p. 691).

66. **Bubo bubo** subsp. ?

Cf. Anderson, *Western Yunnan*, p. 576.

♀ ; Momien, 1. vii. 68.

67. **Otus lempiji erythrocampe** (Swinhoe).

*Scops erythrocampe* Swinhoe, *Ibis*, 1874, p. 269.

♂; Mongtse, Yunnan, July 1910 (Owston).

This single specimen, killed during its moult, and in not very good condition, agrees fairly well with Swinhoe's description of the Cantonese bird, though it appears somewhat smaller. (The wing of the Yunnan bird, a *male*, measures only 6.6 inches, whereas Swinhoe's, not sexed, measured 7 inches.) It has clear indications of "the patch of brown round the eye, continuing backwards to the ear-tufts," referred to by Swinhoe.

68. **Glaucidium brodiei** (Burton).

Gyi-dzin-Shan, 13. iv. 02 (Rippon).

Obtained also by Prince Henry of Orleans (cf. *Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 184).

69. **Palaeornis derbyanus salvadorii** (Oust.).

♂ ad.; Ching-tung, Yunnan, 13. iii. 99 (Wingate).

Also included in Oustalet's list of Yunnan birds obtained by Prince Henry of Orleans (*Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 184).

70. **Palaeornis fasciata** (J. L. S. Müller).

Capt. Wingate procured a specimen in S.W. Yunnan in April 1899 (*Ibis*, 1900, p. 599).

71. **Palaeornis cyanocephala** (Linn.).

Anderson, *Western Yunnan*, p. 568.

♂♂ juv.; Momien, W. Yunnan, July 1 and 10, 1868 (Anderson).

72. **Coracias affinis** McClelland.

Anderson, *Western Yunnan*, p. 581.

Three specimens from Sanda Valley, W. Yunnan, May 1868 (Anderson).

♂ ad.; Ching-tung, Yunnan, 8. iii. 99 (Wingate).

73. **Alcedo ispida bengalensis** Gm.

A single specimen, Muangla, 18. v. 68 (Anderson).

2 ♂♂; Mongtse, S. Yunnan, April, May 1910 (Owston).

Valley east of Talifu, 29. iii. 02 (Rippon).

74. **Halcyon smyrnensis fusca** (Bodd.).

Hartert, *Nor. Zool.* xvii. (1910) p. 215.

5 ♂♂ ad., 1 unsexed juv.; Mongtse, S. Yunnan, May—July 1910 (Owston).

♂ ad.; Mōng-Kon, S. Yunnan, 2. iv. 99 (Wingate).

75. **Merops orientalis birmanus** Neum.

*Merops viridis* Anderson, *Western Yunnan*, p. 582.

*Merops viridis birmanus* Neum., *Orn. Monatsber.* 1910, p. 80.

Cf. Hart., *Vög. Pal. Fauna*, vol. ii. pt. i. p. 864.

A single specimen, Sanda Valley, W. Yunnan, 5. v. 68 (Anderson).

♂ ad.; Ching-tung, Yunnan, 9. iii. 99 (Wingate).

76. **Merops philippinus** Linn.

Eleven specimens collected at Mongtse, S. Yunnan, in March, April, and May 1910 (Owston).

77. **Melittophagus swinhoii** (Hume).

♂ ; Mōng-sen, S. Yunnan, 22. iii. 99 (Wingate).

78. **Upupa epops saturata** Lönnb. ?

*Upupa epops saturata* Lönnberg, *Arkiv. för Zoologi*, v. no. 9, p. 29, 1909.  
Hart., *Vög. Pal. Fauna*, vol. ii, pt. i, p. 869.

4 ♂♂, 1 ♀ ; Mongtse, S. Yunnan, April, June, 1910 (Owston).

These specimens have very soiled plumage. By their dark upper parts they are apparently referable to the Siberian race. Prince Henry of Orleans also obtained specimens of a Hoopoe during his Yunnan explorations (Onstalet).

79. **Caprimulgus monticola** Frankl.

♂ ; Mongtse, S. Yunnan, July 5, 1910 (Owston).

In very poor condition.

80. **Caprimulgus indicus jota** Temm. and Schleg.

Anderson, *Western Yunnan*, ii, p. 588.

♂ ; Pensee, 19. iv. 68 (Anderson).

81. **Apus affinis subfurcatus** (Blyth).

4 ♂♂, 2 ♀♀ ; Mongtse, Yunnan, May, June 1910 (Owston).

82. **Surniculus lugubris** (Horsf.).

Anderson, *Western Yunnan*, p. 587.

One specimen, Pensee, 21. iv. 68 (Anderson).

83. **Cuculus canorus** Linn.

Anderson, *Western Yunnan*, p. 586.

♂ ; Pensee, 21. iv. 68 (Anderson).

♂ ad. : S.W. Yunnan, April 1899 (Wingate).

84. **Cuculus poliocephalus** Lath.

Included in Prince Henry of Orleans' Yunnan collection (cf. *Bull. Mus. d'Hist. Nat. Paris*, 1896, p. 184).

85. **Cuculus optatus** Gould.

*Cuculus optatus* Gould, *Proc. Zool. Soc. Lond.*, pt. xiii, 1845, p. 18  
*Cuculus optatus* Hart., *Vög. Pal. Fauna*, vol. ii, pt. i, p. 949.

2 ♀♀ ; Mongtse, S. Yunnan, May 1910 (Owston).

86. **Cacomantis merulinus** (Scop.).

*Cacomantis ruficentris* Anderson, *West. Exped. Yunnan*, p. 587 (1878).

5 ♂♂, 1 ♀; Mongtse, S. Yunnan, April, May, July 1910 (Owston).  
One specimen; Pousee, 20. iv. 68 (Anderson).

87. **Chalcococcyx maculatus** (Gmel.).

Capt. Wingate obtained a male in S.W. Yunnan in April 1899 (cf. *Ibis*, 1900, p. 598).

88. **Eudynamis orientalis honoratus** (L.).

3 ♂♂, 4 ♀♀; Mongtse, Yunnan, May, June 1910 (Owston).

Yungchang, 30. iv. 06 (Rippon).

The Yunnan specimens agree perfectly with Indian examples, both in the size of their bill and the length of the wing. Hainan birds have conspicuously larger bills, and, as Dr. Hartert has pointed out (*Nor. Zool.* xvii. p. 219), longer wings. I propose to name this Hainan form

**Eudynamis orientalis harterti** subspec. nov.

in honour of Dr. Hartert.

Types: ♂♀; Hainan, 19. iii. 1902 (Tring Museum).

89. **Centropus sinensis** (Steph.).

Capt. Wingate obtained a nearly adult male at Mōng-kow, S.W. Yunnan, April 2, 1899.

90. **Cyanops asiatica** (Latham).

Anderson, *Western Yunnan*, ii. p. 584.

2 ♂♂ ad.; S. Yunnan, 15. iii. 1899 (Wingate).

91. **Cyanops davisoni** (Hume).

Onstalet includes this species in the list of birds obtained in Yunnan by Prince Henry of Orleans; but unfortunately gives no locality (*Bull. Mus. Paris*, 1896, p. 184). Previously it appears to have only been recorded from Central Tenasserim.

92. **Picus sordidior** Rippon.

*Gecinus sordidior* Rippon, *Bull. B.O.C.* xix. p. 32 (1906).

Yangtse big bend, 25. iii. 06 (Rippon).

Lichiang, 8. iv. 06 (Rippon).

The bird recorded from Yunnan by Onstalet under the name of *Gecinus guerini* probably refers to this form (cf. *Bull. Mus. Paris*, 1896, p. 184).

93. **Picus occipitalis** (Vig.).

Gyi-dzin-shan, 6. iv. 02 (Rippon).

94. **Picus striolatus** Blyth.

Anderson, *Western Yunnan*, p. 585.

2 ♂♂; Momien, 17. vi. 68 (Anderson).

95. **Dryobates hyperythrus subrufinus** (Cab. and Heine).

*Hypopicus hyperythrus* Grant, *Ibis* 1900 p. 596.

Yangtse big bend, 24-30. iii. 06 (Rippon).

♂ ad.; S.W. Yunnan, April 1899 (Wingate).

Obtained also by Prince Henry of Orleans (Oustalet).

These birds belong probably to *D. hyperythrus subrufinus* (cf. Hartert, *Vög. pal. Fauna*, ii. p. 926).

96. **Dryobates pernyi** (Verr.).

Yangtse big bend, 30. iii. 06 (Rippon).

97. **Dryobates cabanisi cabanisi** (Malh.).

Yangtse big bend, 22. iii. 06 (Rippon).

Yangpi Valley, 21. iv. 06                   "

2 ♂♂ ad.; near Yunnan City, February 6 and 24, 1899 (Wingate).

98. **Dryobates atratus** (Blyth).

Capt. Wingate procured an adult male at S.W. Yunnan.

99. **Dryobates pygmaeus scintilliceps** (Swinh.).

*Iyngipicus scintilliceps* Hargitt, *Cat. Birds Brit. Mus.* xviii. p. 315 (1890).

*Dryobates pygmaeus scintilliceps* Hart., *Vög. Pal. Fauna* vol. ii. pt. i. p. 926.

♀ ad.; Mongtse, S. Yunnan, July 3, 1910 (Owston).

♂ ad.; near Yunnan City, February 1899 (Wingate).

Unfortunately the Owston collection contains only a single female. This is certainly not *D. semicoronatus* (which has the middle of the back barred, whilst *D. scintilliceps* has the upper back unbarred), although this is the species (cf. *Handlist*, vol. ii. p. 219) said to be found in Yunnan. The specimen before me agrees fairly well with a female from Foochow, but has the bill slightly larger and the grey on the head reaching almost to the nape.

There are three specimens of undoubted *D. p. scintilliceps* from Yunnan in the British Museum (Rippon collection). These also have large bills; but this does not appear to be a very reliable characteristic in the present species, as I have seen a specimen from Peking with an equally large bill.

There is no reason to believe that *semicoronatus* ranges east of Manipur.

Anderson's "*Iyngipicus rubricatus*" (cf. Anderson, *W. Yunnan*, ii. p. 585) doubtless refers to the above species.

100. **Picumnus innominatus chinensis** (Hargitt).

♂; Mongtse, Yunnan, July 3, 1910 (Owston).

101. **Jynx torquilla japonica** Bp.

Hills N.E. of Talifu, 30. iii. 02 (Rippon).

♂ ad.; S.W. Yunnan, 9. iv. 99 (Wingate).

Obtained also by Prince Henry of Orleans (Oustalet).



102. **Riparia rupestris** (Scop.).

Capt. Wingate procured two adult males near Yunnan City, E. Yunnan, on February 24, 1899.

103. **Chelidon rustica gutturalis** (Scop.).

3 ♂♂, 1 ♀; Mongtse, Yunnan, June, July 1910 (Owston).

104. **Chelidon rustica tytleri** (Jerd.).

Cf. Hart., *Vög. Pal. Fauna*, vol. i. p. 804.

♂; Mongtse, Yunnan, May 4, 1910 (Owston).

105. **Cyornis tickelliae** Blyth.

*Cyornis tickelli* Anderson, *Western Yunnan*, p. 620.

2 ♂♂; Pongsee, 15. iii. 68 and 23. iv. 68 (Anderson).

106. **Cyornis rubeculoides** (Vigors).

*Cyornis rubeculoides* Anderson, *Western Yunnan*, p. 619.

Four specimens from Pongsee, March 15--May 2, 1868 (Anderson).

107. **Niltava sundara** Hodgs.

Yangpi-Chutung road, 22. iv. 06 (Rippon).

Included in Oustalet's list of the Yunnan birds obtained by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 185).

108. **Muscicapa latirostris** (Raffles).

♂; Mongtse, Yunnan, May 1910 (Owston).

Also included in Prince Henry of Orleans' list (Oustalet).

109. **Muscicapa narcissina xanthopygia** Day.

♀; Mongtse, Yunnan, May 26, 1910 (Owston).

110. **Muscicapa strophciata** Hodgs.

Anderson, *Western Yunnan*, p. 620.

♂; Pongsee, 28. iii. 68 (Anderson).

111. **Muscicapa sapphira** Blyth.

Anderson, *Western Yunnan*, p. 619.

♂; Pongsee, 19. iv. 68 (Anderson).

112. **Muscicapa leucomelanura leucomelanura** (Hodgs.).

Lichiang Valley, 11. iv. 06 (Rippon).

113. **Muscicapa melanolenca** Hodgs. = **maculata** (Tick).

Chutung-Yungehang road, 26. iv. 06 (Rippon).

♂ ad. ; Ching-tung, Yunnan, 12. iii. 99 (Wingate).

Dr. Sharpe (*Handl.* iii. p. 224) gives "E. Himalayas and Assam, Plains of C. and N.E. India (winter) Tenasserim" as its range.

This specimen agrees with typical examples of *M. melanolenca*.

Onstalet includes this species in his list of birds collected by Prince Henry of Orleans in Yunnan.

114. **Chelidorhynx hypoxantha** (Blyth).

Chutung-Yangpi road, 17. iii. 02 (Rippon).

Gyi-dzin Shan, 31. iii. 02, 6. iv. 02 (Rippon).

Also represented in Prince Henry of Orleans' collection (*Bull. Mus. Paris*, 1896, p. 185).

115. **Rhipidura albicollis** (Vieill.).

2 ♂♂, 1 ♀; Pensee, March-May 1868 (Anderson).

4 ♂♂; Mongtse, Yunnan, June, July 1910 (Owston).

116. **Rhipidura albifrontata** Franklin.

Anderson, *Western Yunnan*, p. 655.

One specimen, Pensee, March 1868 (Anderson).

117. **Tchitreia affinis** Blyth.

*Terpsiphoe affinis*, Anderson, *Western Yunnan* ii. p. 654.

♂ juv. or ♀; Mongtse, S. Yunnan, May 1910 (Owston).

Agrees best with above, but to be sure of the species an adult male should be compared.

118. **Culicicapa ceylonensis** (Swains.).

Gyi-dzin Shan, 3. 13. iv. 02 (Rippon).

119. **Abrornis albogularis fulvifacies** Swinhoe.

Included in Prince Henry of Orleans' list of Yunnan birds (cf. *Bull. Mus. Paris*, 1896, p. 184).

120. **Cryptolopha castaneiceps** Hodgs.

Talifu, Shweli divide, 2. v. 06 (Rippon).

This specimen seems to agree with typical *C. castaneiceps*, but Yunnan is an extension of its range. It has been recorded from Nepal, Sikkim, Shillong, Daffa Hills, Naga Hills, and Manipur.

Onstalet also includes this species among the birds obtained by Prince Henry of Orleans in Yunnan (cf. *Bull. Mus. Paris*, 1896, p. 185).

121. **Cryptolopha burkii tephrocephalus** (Anders.).

*Caliciveta tephrocephala*, Anderson, *Proc. Zool. Soc.* 1871. p. 213.

Yangpi Valley, 20. iv. 06 (Rippon).

Obtained also by Prince Henry of Orleans (Onstalet).

122. **Abornis superciliaris** Tickell.

Anderson, *Western Yunnan*, p. 626.

One specimen, Pongsee, 20. iv. 68 (Anderson).

123. **Abornis ripponi** Sharpe.

*Abornis ripponi* Sharpe, *Bull. B.O.C.* xiii. p. 11 (1902).

Ta lampa, Chutung, 20. iii. 02 (Rippon).

Chutung-Yangpi road, 21. iii. 02 „

Gyi-dzin Shan, 1 and 3. iv. 02 „

124. **Stoparola melanops** (Vig.).

*Eumyias melanops* Anderson, *Western Yunnan*, p. 622.

3 ♂♂, 1 ♀; Mongtse, S. Yunnan, May, June 1910 (Owston).

2 ♂♂; Ching-tung, 12. iii. 99 (Wingate).

Breeds in Western Yunnan, for Anderson procured young specimens in the Sanda valley in June and July 1868 (*op. cit.*).

125. **Pericrocotus elegans** (McClelland)?

3 ♂♂; Pongsee, 14. iv. 68 (Anderson).

126. **Pericrocotus brevirostris** (Vig.).

♂; Pongsee, W. Yunnan, 27. iv. 68 (Anderson).

Talifu Valley, 21. ii. 06 (Rippon).

Lichiang, 11. iii. 06 „

Yangtse big bend, 30. iii. 06 (Rippon).

Chutung-Yungchung road, 26. iv. 06 (Rippon).

Three specimens, E. Yunnan, Feb. 1899 (Wingate).

2 ♂♂, 1 ♀; Mongtse, S. Yunnan, June, July 1910 (Owston).

127. **Pericrocotus roseus** (Vieill.).

2 ♂♂; Muangla, W. Yunnan, May 1868 (Anderson).

6 ♂♂, 2 ♀♀; Mongtse, S. Yunnan, April, May, June, July 1910 (Owston).

128. **Graucalus macei** (Less.).

Included in Oustalet's list of the birds obtained by Prince Henry of Orleans in Yunnan (cf. *Bull. Mus. Paris*, 1896, p. 185).

129. **Campophaga melanoptera** (Rüpp.).

2 ♂♂; Mongtse, S. Yunnan, April, July 1910 (Owston).

130. **Chloropsis aurifrons** (Temm.).

Obtained by Prince Henry of Orleans (Oustalet, *Bull. Mus. Paris*, 1896, p. 184).

131. **Chloropsis hardwickei** Jard. & Selby.

Capt. Wingate procured a male at Chin-tung, Yunnan, on March 5, 1899 (cf. *Ibis*, 1900, p. 593).

132. **Hypsipetes concolor** Blyth.

*Hypsipetes yunnanensis* Anderson, *Western Yunnan*, ii, p. 656.

*Hypsipetes concolor* Sharpe, *Cat. Birds B.M.* vi, p. 38.

♂; Ponsee, 12. iii. 68 (Anderson).

♀ ad.; Wei-yuan, S. Yunnan, 15. iii. 99 (Wingate).

133. **Hypsipetes leucocephalus** (Gmel.).

Capt. Wingate procured a male at Mōng-sen, S. Yunnan, on March 22, 1899 (cf. *Ibis*, 1900, p. 594).

134. **Hemixus flavala** Hodgson.

Anderson, *Western Yunnan*, p. 657.

2 ♂♂; Ponsee, 3. iv. 68 (Anderson).

♂ ad.; Mōng-kou, S. Yunnan, April 1899 (Wingate).

135. **Iole holti** Swinhoe, or subsp.

Cf. Hartert, *Nor. Zool.*, 1902, p. 558.

♂; Mongtse, Yunnan, June 27, 1910 (Owston).

The single male agrees well with specimens from Foochow, with the exception of the abdomen being slightly paler, thus approaching *I. h. binghami*, which, however, has a still paler abdomen and longer wing. There are several Yunnan birds in the British Museum collected by Rippon. These, in the length of their wing and rather pale underparts also approach *binghami*.

Their wings vary in length from 107 to 113 mm.

136. **Criniger tephrogenys henrici** Onst.

*Bull. Mus. Paris*, 1896, p. 185.

Found by Prince Henry of Orleans between Manbao and Semao, S. Yunnan.

137. **Pycnonotus atricapillus** (Vieill.).

3 ♂♂; Mongtse, S. Yunnan, April, May 1910 (Owston).

♂ ad.; Ching-tung, Yunnan, 5. iii. 99 (Wingate).

2 ♂♂ ad.; Mōng-sen, S. Yunnan, March 1899 (Wingate).

138. **Pycnonotus xanthorrhous** J. Anderson.

3 ♂♂, 3 ♀♀; Mongtse, S. Yunnan, May, July 1910 (Owston).

3 ♂♂; Sanda Valley and Momien, W. Yunnan, May—June 1868 (Anderson).

139. *Pycnonotus burmanicus* Sharpe.

*Pycnonotus nigripileus* Anderson, *Western Yunnan*, p. 658.

♂, ♀; Pongsee, I. iii. 68 (Anderson).

♀; Muangla, W. Yunnan, 26. vii. 68 (Anderson).

Talifu Shweli divide, 2. v. 06 (Rippon).

S.W. Yunnan, April 1899 (Wingate).

140. *Pycnonotus flavescens* (Blyth).

Anderson, *Western Yunnan*, p. 659.

One specimen, Pongsee, 27. iii. 68.

141. *Otocompsa flaviventris* (Tickell).

According to Oustalet this species was obtained by Prince Henry of Orleans in Yunnan (*Bull. Mus. Paris*, 1896, p. 184).

142. *Spizixus canifrons* Blyth.?

*J.A.S. Bengal*, xx. p. 520: Khasia Hills.

2 ♂♂, 1 ♀; Mongtse, S. Yunnan, July 2, 1910 (Owston).

These are apparently immature birds, having the crest slaty grey instead of black, and the crown washed with golden green. They are also very small, measuring as follows: Wing, 87—90 mm.; tail, 92—97 mm. The British Museum contains a large series of this species. I find that specimens collected in Western Yunnan and the Southern Shan States, when compared with others from Manipur and Assam, appear to be generally darker, especially on the under surface. This part is more heavily washed with olive-green, and the belly is not bright golden yellow, as is the case with typical examples from Manipur. The throat is greyer, and usually lacks the brownish tinge found in the true *S. canifrons*. Fearing that these differences may possibly be due to seasonal changes, I have refrained from describing the bird as new.

143. *Ianthocincla lanceolata yunnanensis* Rippon.

*Babax yunnanensis* Rippon, *Bull. B.O.C.* xv. p. 96 (1905).

*Ianthocincla lanceolata yunnanensis* Hart., *Vög. Pal. Fauna* vol. i. p. 628.

Chutung-Yangpi, W. Yunnan, I. ii. 06 (Rippon).

Lichiang Valley, 14. iv. 06 (Rippon).

Salwin-Shweli divide, 2. v. 06 „

There is no label on Rippon's "1902" specimen in the British Museum, but when describing the bird in the *Bull. B.O.C.* (cited above) the writer gives "Hills east of Leng-yueh, W. Yunnan, 7000 ft.," as the locality. This form has been separated from *B. lanceolata* by Rippon on account of the feathers at the base of the bill being chestnut instead of black. Prince Henry of Orleans procured specimens which Oustalet identified as *B. lanceolata* (cf. *Bull. Mus. Paris*, 1896, p. 184).

144. *Ianthocincla squamata* (Gould).

Prince Henry of Orleans procured an example which Oustalet records as above (cf. *Bull. Mus. Paris*, 1896, p. 184),

145. **Ianthocincla canora** (Linn.).

♂; Mongtse, Yunnan, April 18, 1910 (Owston).

146. **Ianthocincla (Trochalopteron) ellioti yunnanensis** (Rippon).

*Trochalopteron yunnanense* Rippon, *Bull. B.O.C.* xix. p. 32 (1906).

Yangtse big bend, W. Yunnan, 22 and 23. iii. 06 (Rippon).

Talifu Valley, 10—25. ii. 06, 20. iii. 06 (Rippon).

Lichiang, 12. iii. 06, 21. iii. 06                    "

Shayang-Chutung road, 15. iii. 02                "

A rather doubtful subspecies separated by Rippon from *ellioti* on account of its supposed darker coloration. Prince Henry of Orleans procured a bird which Oustalet recorded as *Trochalopteron (Ianthocincla) ellioti* (cf. *Bull. Mus. Paris*, 1896, p. 184).

147. **Ianthocincla bieti** (Oust.).

*Ianthocincla bieti* Oustalet, *Bull. Mus. Paris*, iii. p. 163 (1897).

Oustalet described this bird from a single unsexed specimen obtained by Prince Henry of Orleans. Subsequently other examples came to hand from Tsekou, collected by M. Soulié (cf. *Nouv. Arch. Mus. d'Hist. Nat. Paris*, 1901, p. 278).

148. **Ianthocincla cinereiceps styani** Oust.

*Trochalopteron styani* Oustalet, *Bull. Mus. Paris*, 1898, No. 6, p. 226.

Gyi-dzin Shan, 3. iv. 02, 7. iv. 02, 8. iv. 02, 11. iv. 02 (Rippon).

Lichiang Valley, W. Yunnan, 2. iv. 06, 10. iv. 06                    "

M. Soulié also met with this species at Tsekou, N.W. Yunnan (Oustalet, *op. cit.* p. 224).

149. **Ianthocincla affinis oustaleti** (Hart.).

Hartert, *Vögel Pal. Faun.* i. p. 633 (1910): Tsekou, Yunnan.

Lichiang Valley, 10. iv. 1906 (Rippon).

150. **Ianthocincla maxima** (Verr.).

Yangtse big bend, W. Yunnan, 23. iii. 06 (Rippon).

151. **Pomatorhinus maclellandi gravivox** David.

A single ♀ in worn plumage collected at Mongtse, Yunnan, on July 9, 1910 (Owston).

♂ ad.; Yunnan City, 6. ii. 99 (Wingate).

♀ ad.; S.W. Yunnan, April 1899 (Wingate).

Oustalet's list of birds obtained by Prince Henry of Orleans in Yunnan (*Bull. Mus. Paris*, 1896 p. 184) includes "*Pomatorhinus Maclellandi*, var. *Armandi* (Oust.)?" Dr. Hartert places this "*var. Armandi*" in the synonymy of the Tibetan form *P. m. dedekensi* Oust. (the author, by the way, subsequently withdrew both of these "varieties" [*Bull. Mus. Paris*, 1898, p. 255]), which is doubtless the race occurring in Northern Yunnan.

152. **Pomatorhinus erythrogenys ferrugilatus** Hodgs. (?)

*P. erythrogenys* Vig., Anderson, *Western Yunnan*, p. 634.

One specimen, Momien, 3. vi. 68 (Anderson).

Anderson's remarks indicate that his specimen is referable to this race and not to *P. erythrogenys* proper, which is found in the North-Western Himalayas.

153. **Pomatorhinus ruficollis styani** Seebohm.

*P. ruficollis* Hodgs., Anderson, *Western Yunnan*, p. 633.

One specimen, Momien, 29. v. 68 (Anderson).

Oustalet (*Bull. Mus. Paris*, 1898, p. 256) questions the validity of Seebohm's bird, but Dr. Hartert upholds it in his *Vög. Pal. E.* (vol. i. p. 639). If a good form, Anderson's solitary specimen and those procured by M. Soulié at Tsekon (N.W. Yunnan), are doubtless referable to it, rather than to the typical Nepalese bird.

154. **Garrulax leucolophus**.

♀ ad.; Mōng-Kou, S. Yunnan, April 1899 (Wingate).

155. **Garrulax albigularis** Gould.

156. **Garrulax pectoralis** Gould.

Both species included in Oustalet's list of birds obtained in Yunnan by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 184).

157. **Dryonastes sennio** (Swinh.).

*Garrulax sennio* Anderson, *Western Yunnan*, p. 627.

Two, Mnaugla, July 1868 (Anderson).

♂ ♂♂, ♀ ♀; Mongtse, S. Yunnan, March, April, July, 1910 (Owston).

One of the Mongtse specimens in abraded plumage collected in July has the upper side strongly washed with rufous, the others all being olive-brown.

158. **Pyctorhis sinensis** (Gmel.).

A series of eight specimens taken at Mongtze, Yunnan, in April, May, June, 1910 (Owston).

♂ ad.; Ching-tung, Yunnan, 9. iii. 99 (Wingate).

Most of these Yunnan birds agree fairly well with Burmese specimens inasmuch as they have the vinous wash on the head extending well down over the nape and shoulders. The back and rump are reddish brown while the wings are very bright rufous. In examples from Assam the vinous tints are confined to the crown of the head, which appears darker by contrast to the back and rump, these parts being paler and more olivaceous, instead of rufous-brown. This bird was also procured by Rippon in W. Yunnan and by Prince Henry of Orleans.

159. **Corythocichla brevicaudata** (Blyth).

Salwin Valley, W. Yunnan, 1. v. 96 (Rippon).

The above specimen agrees well with the typical *C. brevicaudata*, the habitat of which is given in Sharpe's *Handlist* (vol. iv. p. 42) as Tenasserim.

160. **Alcippe fratercula** Rippon.

Talifu, Shweli divide, 2. v. 06 (Rippon).

161. **Alcippe phayrei** Blyth.

Included in Prince Henry of Orleans' list of Yunnan birds (Oustalet).

162. **Proparus sordidior** Rippon.

Lichiang, W. Yunnan, 12. iii. 06, 19. iii. 06 (Rippon).

Yangtse big bend, 2. iv. 06 (Rippon).

Lichiang Valley, 2. iv. 06, 6. iv. 06, 8. iv. 06, 10. iv. 06 (Rippon).

163. **Proparus striaticollis** (Verr.).

*Euleetta striaticollis* Verr., Oustalet, *Nouv. Arch. Mus. Paris*, 1901, p. 290.

The Paris Museum contains three specimens from Tsekou, N.W. Yunnan (cf. *op. cit.*).

164. **Proparus vinipectus bieti** Oust.

Talifu Valley, W. Yunnan, 23. ii. 06, 24. ii. 06, 25. ii. 06 (Rippon).

Yangtse big bend, 22-27. iii. 06 (Rippon).

Lichiang Valley, 2. iv. 06, 10. iv. 06 „

♂ ad. ; Ching-tung, Yunnan, 4. iii. 09 (Wingate).

Oustalet states that this bird probably breeds near Tsekou, N. Yunnan, where it is apparently common (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 290).

[Sharpe (*Handl.* iv. p. 45) gives Ta-Tsien-lou as habitat.]

165. **Proparus genestieri** (Oust.).

*Alcippe genestieri* Oustalet, *Bull. Mus. Paris*, 1897. p. 210. Cf. Hartert, *Nor. Zool.* 1910. p. 231.

Hills east of Yungehang, 28. i. 06 (Rippon).

Lichiang, 14 and 17. iii. 06 „

Lichiang Valley, 6 and 11. iv. 06 „

Yungehang-Salvin road, 29. iv. 06 „

3 ♂♂, 2 ♀♀ ; Mongtse, S. Yunnan, June, July 1910 (Owston).

With one exception, the Mongtse specimens appear to be rather small.

166. **Stachyris nigriceps** Hodgs.

Anderson, *Western Yunnan*, p. 636.

2 ♂♂ and another ; Pongsee, March, April 1868 (Anderson).

167. **Stachyris chrysaea** Blyth.

Anderson, *Western Yunnan*, p. 636.

One specimen, Pongsee, 30. iv. 68 (Anderson).

168. **Stachyridopsis ruficeps** (Blyth) subsp.

Shayang, 15. iii. 02 (Rippon).



169. **Mixornis rubricapilla** (Tick.).

Included in Prince Henry of Orleans' Yunnan collection (Oustalet, *Bull. Mus. Paris*, 1896, p. 184).

170. **Myiophoneus eugenei** Hume.

Talifu Valley, W. Yunnan, 14. ii. 06 (Rippon).

Tali River Valley, 14. iv. 06 (Rippon).

Yangpi Valley, 20. iv. 06                    ,,

Obtained also by Prince Henry of Orleans (Oustalet).

171. **Brachypteryx cruralis** (Blyth).

Included in Prince Henry of Orleans' Yunnan collection (cf. *Bull. Mus. Paris*, 1896, p. 184).

172. **Actinodura souliei** Oust.

*Actinodura souliei* Oustalet, *Bull. Mus. Paris*, 1897, p. 164.

Described from a single specimen obtained by M. Soulié at Tsekou, Upper Mekong, Yunnan.

173. **Actinodura egertoni**.

Anderson, *Western Yunnan*, p. 628.

One specimen, Ponsee, 17. iii. 68 (Anderson).

Prince Henry of Orleans also obtained this bird in Northern Yunnan in 1896 (cf. Oust. *Nouv. Arch. Mus. Paris*, 1901, p. 282).

174. **Ixops nipalensis** (Hodgs.).

*Actinodura nipalensis* Anderson, *Western Yunnan*, p. 627.

One specimen; Ponsee, 2. iii. 68 (Anderson).

175. **Malacias desgodinsi** (David & Oust.).

♂ ad.; S. Yunnan, 19. iii. 99 (Wingate).

♀ ad.; Mōng-sen, S. Yunnan, 21. iii. 99 (Wingate).

Yungchang-Chutmg road, 29. i. 06 (Rippon).

Lichiang Valley, 6-9. iv. 06                    ,,

Yungchang-Salvin road, 29. iv. 06                    ,,

Obtained also by Prince Henry of Orleans (*Bull. Mus. Paris*, 1896, p. 184) and by M. Soulié at Tsekou, where it is apparently common (cf. *Nouv. Arch. Mus. Paris*, 1901).

176. **Malacias pulchella** Godwin Austen.

Included in Prince Henry of Orleans' Yunnan collection (cf. *Bull. Mus. Paris*, 1896, p. 184).

Range, according to Sharpe's *Handlist* (vol. iv. p. 60), is Naga and Daphla Hills only.

177. *Siva cyanuroptera wingatei* Ogilvie-Grant.

*Siva wingatei* O. Grant, *Bull. B.O.C.* x. p. 38 (1900—Yunnan city).  
*Leiothrix cyanuropterus* Anderson, *Western Yunnan*, p. 630.

♀; Pongsee, March 1868 (Anderson).

♂ ad.; Yunnan City, 27. ii. 99 (Wingate).

4 ♂♂, 2 ♀♀; Mougtsse, S. Yunnan, June, July 1910 (Owston).

Onstalet (*Nouv. Arch. Mus. Paris*, 1901) seemed to doubt the validity of Mr. Grant's *wingatei*, on the ground that several examples killed by Prince Henry of Orleans between Mienning and Ynn-chan and Onang-kanpi (French spelling) appeared to him identical with the typical *Siva cyanuroptera*. Having compared *S. c. wingatei* with *S. cyanuroptera* and *S. c. sordida* Hume, I have come to the conclusion that this form is a good subspecies intermediate between the Himalayan and Burmese birds. Mr. Grant states (*Ibis*, 1900, p. 593) that in *wingatei* the tips of the bastard wing-feathers are not tipped with white, but in some instances these feathers show minute points of white, though these are never so pronounced as in the true *S. cyanuroptera*; nor is it invariably the case that "only the inner webs of the outer pair of tail-feathers are white." A character in *wingatei* that appears to have escaped Mr. Grant's notice is that the **secondaries** are never posteriorly margined with a distinct white edge, as in *cyanuroptera*. *S. c. sordida* is a duller bird, with still less white in its wings and tail. It is, of course, possible that two forms are found in Yunnan—*S. cyanuroptera* in the north-west and *S. c. wingatei* in the southern portions of the province.

178. *Siva strigula* Hodgs.

Recorded by Onstalet (*Nouv. Arch. Mus. Paris*, 1901, p. 292) from Tsekou, whence the Paris Museum received three specimens.

179. *Siva castaneicauda* Hume.

Lichiang, W. Yunnan, 13. iii. 06; 14. iii. 06; 16. iii. 06 (Rippon).

Lichiang Valley, 8. iv. 06 (Rippon).

Yangpi, Chutung, 25. iv. 06 „

♂ ad.; near Ching-tung, Yunnan, 3. iii. 99 (Wingate).

*Staphidia torqueola* Swinh.

[Although Onstalet includes *Staphidia torqueola* Swinh. in his list of the birds obtained in Yunnan by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 184), he afterwards admits that the Prince's specimen was obtained near Mau-hao, Tonkin (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 289).]

180. *Yuhina gularis* Hodgs.

Specimens from Yunnan have been sent to the Paris Museum by Prince Henry of Orleans and by M. Soulié from Tsekou, in the extreme north of that province (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 291).

181. *Yuhina diademata* Verr.

The Paris Museum has received specimens from Tsekou, in the extreme north of Yunnan Province, and Ogilvie-Grant (*Ibis*, 1900, p. 592) records it from the east (Wingate).

182. *Yuhina ampelina* Rippon.

Talifu Valley, W. Yunnan, 14. ii. 06 (Rippon).

Lichiang, 13. iii. 06 (Rippon).

183. *Yuhina occipitalis* Hodgs.

Chutung-Yangpi road, 1. ii. 06 (Rippon).

184. *Yuhina yangpiensis* Sharpe.

Yangpi-Talifu road, 22. iii. 02 (Rippon).

185. *Yuhina nigrimentum* Hodgs.

Found at Tsekou by M. Soulié (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 291). Onstalet says that he can find no difference between a Blufan specimen and those from N. Yunnan and Sechnan. The bird found in S.E. China has been named *Y. pallida* (cf. *Bull. B.O.C.* vi. 1897).

186. *Ixulus flavicollis rouxi* Oust.

*Ixulus rouxi* Oust., *Bull. Mus. Paris*, 1896, p. 186.

The Paris Museum contains two examples of this bird, both from Yunnan Province. The type specimen was killed on the banks of the Lij-Sien-Kiang, March 23, 1895; the second was obtained by Prince Henry of Orleans.

187. *Ixulus occipitalis* Blyth.

Onstalet (*Nouv. Arch. Mus. Paris*, 1901, p. 288) records three specimens, in very bad condition, from Tsekou. They are apparently referable to this Indian species.

188. *Leiothrix lutea lutea* (Scop.).

*Leiothrix callipyga* Anderson, *Western Yunnan*, p. 629.

Also obtained by Prince Henry of Orleans (Onstalet).

Six specimens; Pongsee, March 1868 (Anderson).

189. *Cutia nipalensis* Hodgs.

Included in Onstalet's list of birds collected by Prince Henry of Orleans in Yunnan (*Bull. Mus. Paris*, 1896, p. 184).

190. *Pterythius aeralatus* Tickell.

Anderson, *Western Yunnan*, p. 628. pl. xlvii. fig. 1.

♂; Pongsee, 20. iii. 68 (Anderson).

♀; Sanda, 27. vii. 68 „

191. *Pterythius rufiventris* (Blyth).

Included in Prince Henry of Orleans' list of Yunnan birds (cf. *Bull. Mus. Paris*, 1896, p. 185).

192. **Pterythius pallidus** David.

Gyi-dzin Shan, 2. iv. 02 (Rippon).

193. **Myzornis pyrrhura** Hodgs.

In 1900 the Paris Museum received a specimen of this bird, hitherto supposed to be confined to the Eastern Himalayas (Nepal, Sikkim) from Tsekou, N. Yunnan (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 292).

194. **Mesia argenteauris** Hodgs.

*Leiothrix argenteauris* Anderson, *Western Yunnan*, p. 630.

One specimen, Ponsee, 23. iv. 68 (Anderson).

195. **Minla igneincta** Hodgs.

Chutung-Yangpi road, 20. iii. 02 (Rippon).

Ta lau pa, Chutung, 20. iii. 02 „

Sharpe (*Hundl.* iv. p. 67) gives the range of this bird as Nepal to Bhutan, Naga Hills, Manipur, and that of *M. jerdoni* as W. China and Sechuen.

The above specimens agree well with *M. igneincta*.

196. **Conostoma aemodium** Hodgs.

Onstalet states (*Nouv. Arch. Mus. Paris*, 1901, p. 282) that Prince Henry of Orleans and M. Soulié obtained specimens of this species from North Yunnan, where it is apparently not uncommon.

197. **Suthora brunnea** Anderson.

Anderson, *Western Yunnan*, p. xlix.

Four specimens, Momien, 5. vi. 68 (Anderson).

Anderson found this bird "in large flocks, some thirty and forty together," at an elevation of 4500 ft. Prince Henry of Orleans subsequently obtained this species in the north of the province (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 283).

198. **Suthora styani** (Rippon).

Talifu Valley, 13. ii. 06 (Rippon).

Tali Valley, 15. iv. 06 „

199. **Suthora fulvifrons cyanophrys** Dav. et Oust.

The Paris Museum has received several specimens of this bird from Tsekou, N. Yunnan (cf. *Nouv. Arch. Mus. Paris*, 1901, p. 285).

200. **Suthora ruficeps atrosuperciliaris** Godwin-Austen.

*Chlenasiacus ruficeps* Anderson, *Western Yunnan*, p. 638.

Cf. Hart, *Vög. Pal. Fauna*, p. 407 (Note).

One specimen, Ponsee, 22. iv. 68 (Anderson).

201. **Spelaeornis souliei** Onst.

Cf. *Bull. Mus. Paris*, 1898, p. 257. et *Nour. Arch. Mus. Paris*, 1901, p. 274.  
Figured *Nov. Zool.* xvii, pl. 7, fig. 1.

Oustalet described this bird from Tsekou from a unique specimen in the Paris Museum.

202. **Anorthura nipalensis talifuensis** Sharpe.

*Troglodytes nipalensis* Oustalet, *Bull. Mus. Paris*, 1896, p. 184.

Talifu Valley, W. Yunnan, 12. ii. 06 (Rippon).

Lichiang Valley, 21. iii. 06. 2. iv. 06 „

Yangtse big bend, 25-30. iii. 06 „

Oustalet states that Prince Henry of Orleans obtained a specimen during his Yunnan expedition.

203. **Cinclus pallasii souliei** Onst.

*C. p. souliei* Hart., *Vög. Pal. Fauna*, vol. i, p. 797.

Tali River valley, 14. iv. 06 (Rippon).

Probably referable to this race, though a more careful comparison is needed.

204. **Turdus dauma aureus** Hol.

*Turdus varius* Pallas, *Zoog. R. As.* i, p. 449.

Shan Kuan, 28. iii. 02 (Rippon).

205. **Turdus mollissimus** Blyth.

Chutung-Yangpi road, 1. ii. 06 (Rippon).

206. **Turdus pallidus** Gm.

Included in Prince Henry of Orleans' list of Yunnan birds (Oustalet, *Bull. Mus. Paris*, 1896, p. 184).

207. **Turdus castaneus gouldi** (Berr.).

Yangpi Valley, 3. ii. 06 (Rippon).

Lichiang Valley, 10. iv. 06 „

In Oustalet's list of the birds obtained in Yunnan by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 184).

208. **Turdus protomelaenus?** (Cab.).

A female shot at Mongtse, S. Yunnan, on July 9, 1910, agrees fairly well with females of the above species, but the bill is shorter, and pale yellow instead of brown.

209. **Turdus merula mandarinus** Bp.

♂; Mongtse, S. Yunnan, April 1910 (Owston).

210. **Turdus fuscatus** Pall.

Chutung-Yangpi road, 1. ii. 06 (Rippon).

211. **Turdus ruficollis ruficollis** Pall.

Talifu Valley, 14. ii. 06 (Rippon).

Lichiang, 13. iii. 06

„

Yangtse big bend, 23. iii. 06 (Rippon).

Lichiang Valley, 10. iv. 06

„

Obtained also by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896).

212. **Monticola erythrogaster** (Vig.).

Gyi-dzin Shan, 11. iv. 02 (Rippon).

213. **Monticola solitarius pandoo** (Sykes).

*Monticola cyonus*, Anderson, *Western Yunnan*, p. 611.

Talifu Valley, W. Yunnan, 12. ii. 06, 14. ii. 06 (Rippon).

Lichiang, iv. 06 (Rippon).

♂ ad. : near Yunnan City, 29. ii. 99 (Wingate).

♂ ad. ; Mōng-sen, S. Yunnan, 22. iii. 99 (Wingate).

Imm. (in spotted plumage), Mongtse, S. Yunnan (Owston).

214. **Prunella immaculata** (Hodgs.).

Chutung-Yangpi road, 1. ii. 06 (Rippon).

Yangtse big bend, 29. iii. 06.

215. **Prunella collaris ripponi** Hartert.

Dr. Hartert describes this subspecies (cf. *Vög. Pal. Faun.* i. p. 766) from specimens collected by Col. Rippon at Gyi-dzin Shan.

216. **Prunella strophhiata multistriata** (David).

Lichiang Valley, 9. iv., 10. iv. 06 (Rippon).

Yangpi, Chutung Road, 25. iv. 06

„

Lichiang, 19. iii. 06 (Rippon).

These are referable to the Chinese race (found in the Tsin-ling Mts., Kansu and West Szechuan [Hart. *Vög. Pal. F.* i. p. 768]).

217. **Enicurus sinensis** Gould.

*Enicurus sinensis*, Grant, *Ibis*, 1900, p. 589.

Lichiang Valley, W. Yunnan, 8. iv. 06 (Rippon).

Tali Valley, 15. iv. 06 (Rippon).

Yangpi-Chutung road, 24. iv. 06 (Rippon).

♂ ad. ; near Yunnan City, 23. ii. 99 (Wingate).

218. **Microcichla scouleri** (Vig.).

Included in Prince Henry of Orleans' list of Yunnan birds (Onstalet, *Bull. Mus. Paris*, 1896, p. 185).

219. **Chaimarrornis leucocephala** (Vig.).

Lichiang Valley, Tali R. Valley, W. Yunnan, 14. iv. 06 (Rippon).

220. **Chaimarrornis fuliginosa fuliginosa** (Vig.).

Lichiang Valley, 9. iv. 06, 11. iv. 06 (Rippon).

Also obtained by Prince Henry of Orleans (Onstalet).

221. **Phoenicurus ochruros rufiventris** (Vieilh.).

Yangtse big bend, 31. iii. 06 (Rippon).

222. **Phoenicurus aureus leucopterus** (Blyth).

Yangtse big bend, 1. iv. 06 (Rippon).

Lichiang Valley, 4, 9, 10. iv. 06 (Rippon).

These birds are probably referable to the above race (cf. Hartert, *Vög. Pal. F.* i. p. 726). Also obtained by Prince Henry of Orleans.

223. **Phoenicurus hodgsoni** Moore.

Chutung-Yangpi road, 1. ii. 06 (Rippon).

Talifu Valley, 11. ii. 06, 12. ii. 06, 15. ii. 06 (Rippon).

Lichiang, 21. iii. 06 (Rippon).

224. **Phoenicurus schisticeps** (Gray).

Lichiang, 17. iii. 06, 18. iii. 06, 19. iii. 06 (Rippon).

Yangtse big bend, 24. iii. 06 (Rippon).

225. **Phoenicurus frontalis** Vig.

*Ruticilla frontalis* Sub. *Cat. B. Brit. Mus.* v. p. 349.

Chutung-Yangpi road, W. Yunnan, 1. ii. 06 (Rippon).

Talifu Valley, 23. ii. 06 (Rippon).

Lichiang, 18. iii. 06            "

Yangtse big bend, 26. iii. 06   "

Lichiang Valley, 2. iv. 06     "

Also in Prince Henry of Orleans' collection (Onstalet).

226. **Tarsiger rufilatus** (Hodgs.).

Chutung-Yangpi road, 1. ii. 06 (Rippon).

Yangtse big bend, 29. iii. 06. 1. iv. 06 (Rippon).

Included in Prince Henry of Orleans' Yunnan collection (cf. *Bull. Mus. Paris*, 1896).

227. **Tarsiger cyanurus** (Pall.).

Lichiang, W. Yunnan, S. iii. 06 (Rippon).

228 **Luscinia (Calliope) pectoralis** (Gould).

*Calliope pectoralis* Anderson, *Western Yunnan*, p. 615.

♀; Pongsee, 13. iii. 68 (Anderson).

229. **Notodela leucura** (Hodgs.).

2 ♀♀; Mongtse, Yunnan, June, July 1910 (Nos. 216, 273) (Owston).  
Also obtained by Prince Henry of Orleans.

230. **Copsychus saularis saularis** (Linn.).

Hartert, *Nor. Zool.* xvii. p. 234 (1910).

3 ♂♂, 1 ♀; Mongtse, S. Yunnan, April, May, July 1910 (Owston).

231. **Pratincola torquata indica** Blyth.

*P. maura* Sharpe, *Handl.* iv. p. 172.

♀; Pongsee. 13. iii. 68 (Anderson).

Three, Momien, 30. v. 68 „

Yungchang-Chutung road, 31. i. 06 (Rippon).

Talifu Valley, 9-29. ii. 06 (Rippon).

Lichiang Valley, 21. iii. 06. 12. iv. 06 (Rippon).

♂; Mongtse, S. Yunnan, 4. vii. 10 (Owston).

232. **Pratincola caprata caprata** Horsf.

Anderson, *Western Yunnan*, p. 617.

♂, ♀; Ching-tung, Yunnan, 9. iii. 99 (Wingate).

♀; Momien, June 1868 (Anderson).

Under this name Anderson (*op. cit.*) includes several specimens collected in Upper Burma and one from Momien, West Yunnan. Wingate likewise obtained this bird in the south of the province.

233. **Oreicola ferrea haringtoni** Hartert.

*O. f. haringtoni*, *Vög. Pal. F.* i. p. 711 (Fu-chau, China).

*Pratincola ferrea* Anderson, *Western Yunnan*, p. 617.

Three ♀ ♂; Pongsee, May 1 and 2, 1868 (Anderson).

♂; Yunnan City, E. Yunnan, 29. ii. 99 (Wingate).

234. **Sutoria sutoria phyllorrhaphea** (Swinhoe).

1 ♂, 1 unsexed; Mongtse, S. Yunnan, May, July 1910 (Owston).

Salwin Valley, 1. v. 06 (Rippon).

By the dark shade of the green back these are apparently referable to this Chinese race. The ear-coverts appear to be faintly mottled in the Rippon specimen, and this bird has been labelled *S. maculicollis* in the British Museum, but the Malayan race is, on an average, a considerably smaller bird.



235. **Cisticola exilis** (Vig. and Horsf.).

*Cisticola melanocephala* Anderson, *Western Yunnan*, p. 641.

Two specimens, Sanda, W. Yunnan, July 1868 (Anderson).

236. **Franklinia gracilis** (Frankl.).

Oates, *F. of Brit. In.* i. p. 376.

2 ♂♂, 2 ♀♀; Mongtse, S. Yunnan, May, July 1910 (Owston).

♂ ad.; Ching-tung, Yunnan, 9. iii. 99 (Wingate).

237. **Megalurus palustris** Horsf.

Capt. Wingate obtained two adult males, one at Ching-tung and one at Mōng-sen, near Ma-li-pa, in March 1899.

238. **Phragamaticola aedon** (Pall.).

*Arundinax aedon* (Pall.) Swinhoe, *P.Z.S.* 1871, p. 353.

♂; Mongtse, Yunnan, May 27, 1910 (Owston).

239. **Herbivocula schwarzi** (Radde).

*Luscinola schwarzi* Sharpe, *Hanull.* iv. p. 212.

Chutung, 28. iv. 02 (Rippon).

Yang-pi Valley, 22. iv. 02 (Rippon).

240. **Phylloscopus proregulus** (Pall.).

♂♂ ♀; Mongtse, July 3 and 9, 1910 (Owston).

♂ ad.; Yunnan City, 7. ii. 99 (Wingate).

The three specimens from Mongtse are in very poor condition. The rump-band is hardly perceptible (in one example it appears to be wanting altogether). This may perhaps be due to the "make-up" of the skins or to the birds being in moult.

Rippon's skins from Western Yunnan are very grey birds (but have a pronounced rump-band), and taking an average they appear to be rather large. (The wing measurements, however, in the genus *Phylloscopus* are always liable to variation.) Unfortunately, although the British Museum contains a large series of *P. p. newtoni* (whose wing-formula resembles that of the Yunnan birds), hardly any of the specimens have been procured in the corresponding spring months.

Pallas' Willow-Warbler was also obtained in Yunnan by Prince Henry of Orleans (Oustalet).

241. **Phylloscopus affinis** (Tickell).

Anderson, *Western Yunnan*, p. 625.

♀; Momien, 2. vi. 68 (Anderson).

242. **Phylloscopus pulcher** Blyth.

Shan Kwan, Tali Valley, 28. iii. 02 (Rippon).

Gyi-dzin Shan, 2-18. iv. 04 (Rippon).

243. **Phylloscopus maculipennis** (Blyth).

Gyi-dzin Shan, 14. iii. 02, 21. iv. 02 (Rippon).

Chutung, 21. iii. 02 (Rippon).

Sharpe (*Handl.* iv. p. 215) gives as the range "Himalayah (Sutlej Valley to Bhutan."

244. **Phylloscopus fuscatus** (Blyth).

♂; Poonsee, 19. iv. 68 (Anderson).

♂; Mongtse, S. Yunnan, April 6, 1910 (Owston).

245. **Phylloscopus borealis borealis** (Blas.).

2 ♂♂, 1 ♀; Mongtse, Yunnan, May 1910 (Owston).

246. **Phylloscopus superciliosus superciliosus** (Gmel.).

*Ph. superciliosus* Anderson, *Western Yunnan*, p. 625.

One specimen; Poonsee, 24. iv. 68 (Anderson).

247. **Phylloscopus nitidus plumbeitarsus** (Swinh.).

Gyi-dzin Shan, 1-24. iv. 02 (Rippon).

248. **Phylloscopus lugubris** Blyth.

Included in Onstale's list of Yunnan birds collected by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 184).

249. **Phylloscopus davisoni** Oates.

Yangtse big bend, W. Yunnan, 31. iii. 06 (Rippon).

Lichiang Valley, 8. iv. 06 (Rippon).

Yangpi-Chutung road, 24. iv. 06 (Rippon).

Yungchang, 28. iv. 06 (Rippon).

250. **Phylloscopus trochiloides** (Sund.).

*Ph. viridipennis* Anderson, *Western Yunnan*, p. 626.

Poonsee, 27. iv. 68 (Anderson).

Yangi, 23. iii. 02 (Rippon).

Gyi-dzin Shan, 31. iii. 02—2. v. 02 (Rippon).

251. **Phylloscopus subaffinis** Grant.

Cf. Og-Grant, *Bull. B.O.C.* x. p. 37 (1900) (Kweichu).

Chutung-Yangpi road, 20. iii. 02.

Shan Kwan, Tali Valley, 28. iii. 02.

Gyi-dzin Shan, 5. iv. 02—28. iv. 02.

Chutung-Shayang road, 28. iv. 02.

Nechong Valley, 30. iv. 02.

Anderson's *Phylloscopus affinis* is probably this species. He gave this name to a single specimen obtained at Momien June 2, 1868.

252. *Phyllergates coronatus* (Jord. and Blyth).

♂; Mongtse, S. Yunnan, 2. vi. 10 (Owston).

The distribution of this bird is given by Sharpe (*Handlist*, iv. p. 237) as follows: E. Himalayas (Sikkim to Assam); Manipur; Burmese Provinces (Karenee, Muleyit); Malay Peninsula. It is therefore interesting to find it in Yunnan.

253. *Suya superciliaris* Anders.

Anderson, *Western Yunnan*, p. 642. pl. li. fig. 1.

2 ♂♂; Momien, 2. vi. 68 (Anderson).

254. *Suya crinigera* Hodgson.

Anderson, *Western Yunnan*, p. 642.

3 ♀♀, 1 ♂; Momien, June, July 1868 (Anderson).

255. *Prinia inornata extensicauda* Swinhoe.

*Drymopis inornatus* Anderson, *Western Yunnan*, ii. p. 640.

A series of nine specimens, eight males and one female, shot at Mongtse, Yunnan, in April, May, June, July 1910 (Nos. 21, 39, 63, 101, 208, 255, 256, 257, 287).

Compared with typical *P. i. extensicauda* from the Amoy, birds from Yunnan and Upper Burma have very small bills; on the other hand, those from Formosa—as Swinhoe pointed out in 1863 (*Ibis*, 1863, p. 299)—are “rather larger,” and possess “usually more robust bills.” They all agree, however, in having the back generally greyer and more olivaceous than *P. inornata*. In some examples of the latter, noticeably from Muddapur, the upper parts are very brown, frequently with a rusty tinge on the lower back and rump, and South Burmese birds (so-called *blanfordi*) are often very fulvous about the head and underparts. Of course these warm tints may be largely due to season, and are certainly more apparent in winter-killed specimens.

This group is unquestionably a difficult one, and we will need to compare a very large series of skins **with full data** (which is often not forthcoming in some of the older specimens), before we can come to any definite conclusions.

Having examined the specimens in the Tring and British Museums, we publish the following notes in the hope that they may be useful to future workers:—

*Prinia inornata inornata* Sykes.

Upper parts brownish, with frequently a distinct rusty tinge on lower back and rump. (The rufous tints are more pronounced in winter.) Average length of wing, 50 mm.

*Hab.* Indian Peninsula.

*Prinia inornata jerdoni* (Blyth).

Slightly larger. Upper parts usually darker and less rufous, even in winter. Tail shorter, with subterminal spot more distinct. Average length of wing, 52 mm.

*Hab.* Extreme south of Indian Peninsula and Ceylon.

**Prinia inornata blanfordi** (Walden).

A somewhat doubtful subspecies. In tone of upper plumage, length of tail, and size of bill, apparently intermediate between *inornata* and *extensicauda*.

*Hab.* Lower Burma.

**Prinia inornata extensicauda** (Swinh.).

Upper plumage greyer, with an olivaceous wash. Bill smaller (this is especially noticeable in specimens from Yunnan and Upper Burma). Crown faintly striated. Tail long. Average length of wing, 59 mm.

(*Note.*—Formosan specimens (subsp. nov.?) are perhaps a shade larger and have decidedly more robust bills.)

256. **Hemipus capitalis** McClelland.

Anderson, *Western Yunnan*, ii. p. 647.

2 ♂♂; Pongsee, March, May 1868 (Anderson).

257. **Lanius hypoleucus** Blyth.

*Lanius collyrioides* Grant, *Ibis*, 1900. p. 585.

Capt. Wingate obtained an adult female at Mōng-Kon, near Ma-li-pa, South Yunnan, in April 1899.

258. **Lanius schach tephronotus** (Vig.).

Mongtse, S. Yunnan, April 21, 1910 (Owston).

♂ imm.; near Yunnan City, E. Yunnan, 7. ii. 99 (Wingate).

259. **Lanius tigrinus** Drap.

♂; Mongtse, S. Yunnan, May 26, 1910 (Owston).

260. **Lanius nigriceps** Franklin.

Anderson, *Western Yunnan*, p. 644.

Four specimens; Pongsee and Sanda, March—July 1868 (Anderson).

Two specimens; near Yunnan City, February 1899 (Wingate).

261. **Lanius cristatus cristatus** Linn.

Anderson, *Western Yunnan*, p. 645.

♂; Pongsee, May 1868 (Anderson).

262. **Parus palustris dejeani** Oust.

Oustalet, *Bull. Mus. Paris*, 1897, p. 209.

Oustalet named some specimens of Marsh Tits from Tsekou *Parus dejeani*. Dr. Hartert (*Vög. Pal. E.* vol. i. p. 376) queries the validity of this subspecies and suggests that the bird is identical with *P. p. hypermelaena* (Ber. & Bianchi).

263. **Parus dichrous dichroides** (Przew.).

In Oustalet's list of the birds obtained in Yunnan by Prince Henry of Orleans we find *P. dichrous*. According to Dr. Hartert (*Vög. Pal. F.* vol. i. p. 363) this species inhabits the Himalayas from Dharmasala to Sikkim. It is probable, therefore, that the birds taken by Prince Henry do not belong to this form, but to the more eastern *P. d. dichroides*.

264. **Parus rex** David.

Included in Prince Henry of Orleans' collection (Oustalet, *Bull. Mus. Paris*, 1896, p. 185).

265. **Parus major commixtus** Swinh.

Hill E. of Yungchang, W. Yunnan, 21. i. 06 (Rippon).  
Talifu Valley, 10. ii. 06, 12. ii. 06, 20. ii. 06, 23. ii. 06, 25. ii. 06 (Rippon).  
Lichiang, 11. iii. 06, 19. iii. 06, 2. iv. 06 (Rippon).  
Yangtse big bend, 24. iii. 06, 26. iii. 06, 27. iii. 06 (Rippon).  
Tali Valley, 15. iv. 06 (Rippon).  
Five specimens, Mongtse, S. Yunnan, May—June 1910 (Owston).  
Anderson and Prince Henry of Orleans also obtained this Tit.

266. **Parus beavani poecilopsis** Sharpe.

Yangtse big bend, 25-30. iii. 06 (Rippon).

267. **Parus ater aemodius** Hodgs.

Lichiang, 18. iii. 06 (Rippon).  
This specimen, which is in very bad condition, appears to be referable to this race. Oustalet, *Bull. Mus. Paris*, 1896, p. 185, also identified the Coal Tits obtained in Yunnan by Prince Henry of Orleans as *P. a. aemodius*.

268. **Parus monticolus monticolus** (Vig.).

Talifu Valley, W. Yunnan, 10-20. ii. 06 (Rippon).  
Also obtained by Prince Henry of Orleans (Oustalet).

269. **Aegithaliscus bonvaloti** Oust.

Yangtse big bend, 30. iii. 06 (Rippon).  
Lichiang, 11-17. iii. 06 (Rippon).  
Yangtse big bend, 23-31. iii. 06 (Rippon).  
Obtained also by Prince Henry of Orleans (Oustalet).

270. **Aegithaliscus concinnus** Gould.

♂; Mongtse, S. Yunnan, 27. vi. 10 (Owston).  
Also in Prince Henry of Orleans' Yunnan collection (Oustalet).

271. **Aegithalos caudatus glaucogularis** Gould.

Lichiang, 11. iii. 06 (Rippon)

272. **Aegithaliscus talifuensis** Rippon.

*Aegithaliscus talifuensis*, Rippon, *Bull. B.O.C.* xiv. p. 18 (1903).

Lichiang, W. Yunnan, 13-17. iii. 06 (Rippon).

Talifu, Shweli divide, 2. v. 06 (Rippon).

273. **Cephalopyrus flammiceps** (Burton).

*Aegithalus flammiceps*, Oustalet, *Nour. Arch. Mus. Paris*, 1901.

The Paris Museum contains specimens of this bird from Tsekou, N. Yunnan.

274. **Regulus regulus yunnanensis** (Rippon).

*Regulus yunnanensis*, Rippon, *Bull. B.O.C.* xix. p. 19 (1906).

Yangtse big bend, 22. ii. 06, 28-30. iii. 06 (Rippon).

Yangpi Valley, 3. ii. 06 (Rippon).

Talifu Valley, 21-24. ii. 06 „

Lichiang, 11. iii. 06 (Rippon).

Gyi-dzin Shan, 31. iii. 02 (Rippon).

275. **Sitta yunnanensis** Ogilvie-Grant.

*S. yunnanensis*, O. Grant, *Bull. B.O.C.* x p. 37.

Lichiang, W. Yunnan, 11. iii. 06, 18. iii. 06 (Rippon).

Yangtse big bend, 22. iii. 06, 1. iv. 06 (Rippon).

Lichiang Valley, 2. iv. 06 (Rippon).

Yangpi Chutung, 23. iv. 06 „

276. **Sitta europaea montium** La Touche.

Lichiang, 13. iii. 06 (Rippon).

Yangtse big bend, 23-29. iii. 06 (Rippon).

Lichiang Valley, 8. iv. 06 (Rippon).

Dr. Hartert (*Vög. Pal. F.* vol. i. p. 334) states that the range of *Sitta europaea nagaensis* Godwin Austen, includes the Naga Hills, Assam, and the Southern Shan States. Having compared birds from the latter district with typical examples of *S. e. montium* La Touche, I find that Nuthatches from the Shan States all have the undersurface distinctly washed with creamy-buff and are not to be distinguished from Khatum birds, killed at the same time of the year. The Southern Shan States are inhabited by *S. e. montium* and not *S. e. nagaensis*.

277. **Sitta magna** Wardlaw Ramsay.

♂; Wei-yuan, S. Yunnan, 19. iii. 99 (Wingate).

Yangpi-Chutung road, 24. iii. 06 (Rippon).

278. **Sitta canadensis villosa** Verr.

*Sitta canadensis villosa* Hart., *Vog. Pal. Fauna* vol. i. p. 336.

Obtained by Prince Henry of Orleans in Yunnan (cf. *Bull. Mus. Paris*, 1896, p. 185).

279. **Dendrophila frontalis** (Horsf.).

*Dendrophila corallina*, Anderson, *Western Yunnan*, p. 633 (Owston).

♂ Mongtse, Yunnan, June 9, 1910.

♂ ; Pongsee, 14. iv. 68 (Anderson).

280. **Certhia himalayana yunnanensis** (Sharpe).

*Certhia yunnanensis* Sharpe, *Bull. B.O.C.* xiii. p. 11 (1902).

Lichiang Valley, 17. iii. 06, 6. iv. 06 (Rippon).

Yangtse big bend, 22-31. iii. 06 (Rippon).

Obtained also by Prince Henry of Orleans (Oustalet).

281. **Certhia familiaris khamensis** (Bianchi).

*Handl. Birds Brit. Mus.* iv. p. 360 (1909).

Lichiang, 17. iii. 06 (Rippon).

Yangtse big bend, 24, 25. iii. 06 (Rippon).

282. **Tichodroma muraria** (Linn.).

Talifu Valley, W. Yunnan, 11. ii. 06 (Rippon).

283. **Zosterops erythropleurus** Swinh.

Gyi-dzin Shan, 5. iv. 02 (Rippon).

284. **Zosterops palpebroso palpebroso** Temm.

Five specimens, Mongtse, S. Yunnan (Owston).

Two of the Yunnan specimens are very golden in their colours, and are indistinguishable from the typical Indian *Z. p. palpebroso*, while the other three, being greener and with paler throats, are rather nearer the Chinese *simplex*. The Yunnan birds therefore appear somewhat intermediate between the Chinese and Indian forms. They may possibly be referable to Oustalet's *Z. p. mussoti* (cf. *Oust. Ann. Sci. Nat.* 1891, p. 289, and Hartert, *Nor. Zool.* xvii. p. 242), but without any Sechuan birds to compare them with it is impossible to say for certain. Oustalet's birds from Mussot appear, however, to measure rather less; the average length of their wings being given as 52 mm., while the Yunnan birds average 56 mm. The bills of the latter are all small.

285. **Dicaeum ignipectus** (Hodgs.).

♂ ad. ; Chung-tung, Yunnan, 5. iii. 99 (Wingate).

Yangpi Chutung, 23. iv. 06 (Rippon).

Also included in Prince Henry of Orleans' list of Yunnan birds (Oustalet).

286. **Aethopyga sanguinipectus** Wald.

♂ ; Mōng-sen, S. Yunnan, 22. iii. 99 (Wingate).

Yangpi, 22. iii. 02 (Rippon).

287. **Aethopyga seheriae** Tickell.

Salvin Valley, l. v. 06 (Rippon).

Onstalet states (*Bull. Mus. Paris*, 1896, p. 184) that Prince Henry of Orleans obtained "*Aethopyga seheriae* var. *lubacula*" during his travels in Yunnan.

288. **Aethopyga ignicauda** (Holgs.).

Chutung, 21. iii. 02 (Rippon).

Sharpe (*Handl.* v. p. 39) gives the range as E. Himalayas (Nepal to Bhutan, Khasia and Naga Hills, Manipur).

289. **Aethopyga dabryi** Verr.

Anderson, *Western Yunnan*, p. 662.

♂; Ponsee, 28. iii. 68 (alt. 3300 ft.) (Anderson).

♂; near Yunnan City, E. Yunnan, 28. ii. 99 (Wingate).

290. **Motacilla alba leucopsis** Gould.

Talifu Valley, 12. ii. 06 (Rippon).

Yangtse, 28. iii. 06 (Rippon).

Lichiang, 2. iv. 06            „

291. **Motacilla alba hodgsoni** Blyth.

*Motacilla maderaspatenses* Anderson, *Western Yunnan*, p. 610.

Onstalet includes *M. hodgsoni* among the birds obtained by Prince Henry of Orleans in Yunnan (*Bull. Mus. Paris*, 1896, p. 185).

292. **Motacilla flava borealis** Sundev.

*Budytes viridis* Anderson, *Western Yunnan*, ii. p. 608.

Anderson records a specimen of "*Budytes viridis*" from Ponsee, March 1868.

293. **Motacilla boarula melanope** Pall.

Talifu Valley, 14. ii. 06 (Rippon).

Lichiang, 2. ix. 06 (Rippon).

♂ ad.; Yunnan City, E. Yunnan, 7. ii. 99 (Wingate).

294. **Motacilla citreola citreola** (Pall.).

Capt. Wingate procured an adult male example at S.W. Yunnan in April 1899.

295. **Dendronanthus indicus** (Gm.).

*Linonidronus indicus* Sharpe, *Cat. Birds Brit. Mus.* x. p. 532.

2 ♂♂: Mongtse, Yunnan, May 1910 (Owston).

296. **Anthus trivialis maculatus** Hodgs.

*Pipastes maculatus* Anderson, *Western Yunnan*, p. 608.

Four specimens from Ponsee, March, April 1868.



297. **Anthus richardi richardi** Vieill.

*Corydalla richardi* Anderson, *Western Yunnan*, p. 606.

Muangla, 2. v. 68 (Anderson).

♀; Momien, 2. vi. 68 „

298. **Anthus rufulus rufulus** Vieill.

♂, 2 ♀ ♀; Mongtse, Yunnan, March, May 1910 (Owston).

299. **Anthus roseatus** Blyth.

Lichiang Valley, 21. iii. 06 (Rippon).

300. **Anthus spinoletta blakistoni** Swinh.

Talifu Valley, 25. ii. 06 (Rippon).

301. **Alauda gulgula** subsp. ?

A single young bird, sexed male, from Mongtse, Yunnan (No. 290) is apparently of the above species but is above very dark (Owston).

302. **Alauda arvensis** subsp.

Lichiang Valley, i. iv. 06 (Rippon).

Talifu, 25. ii. 06 (Rippon).

303. **Mycerobas carnipes** (Hodgs.).

Yangtse big bend, 22. iii. 06 (Rippon).

304. **Eophona melanura melauura** (Gmel.).

Capt. A. W. S. Wingate obtained an adult female in E. Yunnan, February 23, 1899.

305. **Pycnorhamphus affinis** Blyth.

Obtained by Prince Henry of Orleans (cf. *Bull. Mus. Paris*, 1896, p. 185).

306. **Spinus ambiguus** (Oust.).

Oustalet, *Bull. Mus. Paris*, 1896, p. 186.

Lichiang, 18. iii. 06 (Rippon).

Chntung-Yungchang road, 26. iv. 06 (Rippon).

Lichiang Valley, iv. 06 (Rippon).

Prince Henry of Orleans obtained a female at Menning (Yunnan) May 7, 1895 (Oustalet).

307. **Passer rutilans cinnamomea** (Gould).

Anderson, *Western Yunnan*, p. 602.

Six specimens; Momien, May, June 1868 (Anderson).

308. *Passer montanus montanus* Linn.

Anderson, *Western Yunnan*, p. 601.

Three specimens ; Ponsee, 26. v. 68 (Anderson).

Four specimens ; Momien, 3. vii. 68 ..

309. *Carpodacus erythrinus roseatus* (Hodgs.).

Gyi-dzin Shan, 7. iv. 02, 15. iv. 02 (Rippon).

310. *Carpodacus femininus* (Rippon).

*Propasser femininus*, Rippon, *Bull. B.O.C.* xix. p. 31 (1906).

Yangtse big bend, 28. iii. 06 (Rippon).

Talifu, Shweli divide, 2. v. 06 ..

Shayang-Yungchang, 27. iv. 06 ..

311. *Carpodacus pulcherrimus* (Moore).

Lichiang Valley, 21. iii. 06 (Rippon).

Chutung-Yungchang road, 26. iv. 06 (Rippon).

312. *Carpodacus ripponi* Sharpe.

*Propasser ripponi*, Sharpe, *Bull. B.O.C.* xiii. p. 11 (1902).

Gyi-dzin Shan, 9-15. iv. 02 (Rippon).

313. *Carpodacus vinaceus* Verr.

Hart. *Vög. Pal. Fauna* i. p. 105.

Chutung-Yungchang road, 21. iv. 06.

314. *Pyrhula erithaca altera* Rippon.

*Pyrhula altera*, Rippon, *Bull. B.O.C.* xix. p. 19 (1906).

♂ ; Shayang-Chutung road, 6,700 ft., 31. i. 06 (Rippon)	} Types of the species.
♀ ; Yangpi-Chutung road, 5,400 ft., 24. iii. 06 ..	
♂, ♀ ; Shayang-Chutung road, 6,700 ft., 31. i. 06 ..	

Very close to Blyth's *erithaca*, and a larger series for comparison is badly needed. The orange on the breast certainly appears to be of a darker and redder tone, but the grey of the upper surface is practically identical. The females are a shade darker. In specimens from Szechuan these slight differences in coloration do not appear to hold good.

315. *Propyrhula subhimachala* (Hodgs.).

Gyi-dzin Shan, 7-10. iv. 02 (Rippon).

Sharpe (*Handl.* v. p. 274) gives "Nepal and Sikkim" as the habitat of this species. Yunnan is therefore an extension of its known range.

316. *Emberiza pusilla* Pallas.

Anderson, *Western Yunnan*, p. 603.

Two ; Ponsee, March, April 1868 (Anderson).

317. **Emberiza elegans** Temm.

♂ : Ching-tung, Yunnan (Wingate).  
Yangtse big bend, 24. iii. 06 (Rippon).  
Lichiang Valley, 8. iv. 06 „

318. **Emberiza fucata arcuata** Sharpe.

Hart., *Vög. Pal. Fauna*, i. p. 187.

Yangpi, Chutung, 25. iv. 06 (Rippon).  
♀ ; Mongtse, S. Yunnan, 30. vi. 10 (Owston).

Rippon's specimen agrees with *E. f. arcuata* Hartert (*op. cit.*) and Sharpe (*Handl.* v. p. 278). Both give the range of this bird as "Kashmir to Assam." It is therefore new to Yunnan.

319. **Emberiza aureola** Pall.

♂ ; Mongtse, S. Yunnan, May 5, 1910 (Owston).

320. **Emberiza spodocephala melanops** Blyth ?

Cf. Styan, *Ibis*, 1891, p. 353.

♂ juv., ♀ ad. ? Mongtse, S. Yunnan, April 1910 (Owston).

These Mongtse specimens are probably referable to the above race, although the typical *E. s. spodocephala* is doubtless a winter visitor to Yunnan, as it is said to be to the whole of China. Oustalet (*Bull. Mus. Paris*, 1896) includes it in his list of birds obtained in this province by Prince Henry of Orleans.

321. **Emberiza yunnanensis** Sharpe.

Sharpe, *Bull. B.O.C.* xiii. p. 12 (1902).

Talifu Valley, 20. ii. 06 (Rippon).  
Yangpi, 4. ii. 06 (Rippon).  
Yangtse big bend, 26. iii. 06 (Rippon).  
Lichiang Valley, 21. iii. 06 ; 2. iv. 06 ; 9. iv. 06.

322. **Melophus melanicterus** (Gm.).

4 ♂♂ ad., 4 ♂♂ juv., 2 ♀♀ ad. ; Mongtse, Yunnan, April, May, June, July 1910 (Owston).

♂ imm. ; Upper Mekong River, S. Yunnan, 13. iii. 99 (Wingate).  
♂ ; Mōng-sen, S. Yunnan, 26. iii. 99 (Wingate).

323. **Munia atricapilla** (Vieill.).

*Munia atricapilla* Anderson, *Western Yunnan*, p. 598.

Five specimens ; Muangla, 17. vii. 68 (Anderson).

324. **Munia topela** Swinh.

2 ♂♂, 1 ♀ ad., 1 ♀ juv. ; Mongtse, Yunnan, April, May 1910 (Owston).

325. **Munia acuticauda** (Hodgs.).

Included in Prince Henry of Orleans' Yunnan collection (cf. *Bull. Mus. Paris*, 1896, p. 185).

326. **Sporaeginthus flaviventris** (Wall.).

*Estrilda flaviventris* Anderson, *Western Yunnan*, ii. p. 600

♂ ad.; Mongtse, S. Yunnan, 9. vii. 1910 (Owston).

Muangla, S. v. 68 (Anderson).

2 ♂♂; Momien, June, July 1868 (Anderson).

327. **Sporaeginthus amandava** (Linn.).

S.W. Yunnan, April 1899 (Wingate).

Möng-kou, S. Yunnan, April 1899 (Wingate).

328. **Spodiopsar malabaricus** (Gmel.).

*Temenuchus malabaricus* Anderson, *Western Yunnan*, ii. p. 596.

2 ♂♂; Muangla, 12. v. 68 (Anderson).

Also obtained by Wingate in South and South-West Yunnan, March and April 1899.

329. **Spodiopsar nemoricolus** (Jer.).

3 ♂♂ were sent from Mongtse, Yunnan, shot in April May, June 1910 (Owston).

Sharpe (*Handlist*, v. p. 516) says that this bird is found in the Burmese Provinces of Pegu and Tenasserim. Yunnan would, therefore, be an extension of its range as at present known.

330. **Gracupica nigricollis** (Payk.).

*Sturnopastor nigricollis* Anderson, *Western Yunnan*, p. 595.

Muangla and Momien, May, June 1868 (Anderson).

S.W. Yunnan, April 1899 (Wingate).

331. **Acridotheres tristis** (Linn.).

Anderson, *Western Yunnan*, p. 593.

Near Mong-sen, S. Yunnan, 24. iii. 99 (Wingate).

332. **Aethiopsar grandis** Moore.

*Acridotheres siamensis* Anderson, *Western Yunnan*, p. 594.

Two specimens; Muangla, 18, 19. v. 68 (Anderson).

333. **Aethiopsar cristatellus** Gm.

♂; Mongtse, S. Yunnan, May 14, 1910 (Owston).

334. **Oriolus trailli** (Vigors).

In Prince Henry of Orleans' Yunnan collection (Oustalet).

335. **Oriolus tenuirostris** Blyth.

Lichiang Valley, 12. iv. 06 (Rippon).

East Yunnan, 1. ii. 99 (Wingate).

336. **Oriolus indicus** Gerdon.

*Oriolus diffusus* Sharpe, *Cat. Birds Brit. Mus.* iii. p. 197.

♂ ♀; Mongtse, Yunnan, April, May 1910 (Owston).

337. **Chibia hottentotta** (Linn.).

2 ♂♂; Mongtse, Yunnan, July 1910 (Owston).

Obtained also by Wingate in S.W. Yunnan, April 1899.

338. **Chaptia aenea** Vieill.

Anderson, *Western Yunnan*, p. 652.

A single specimen; Pongsee, 13. iii. 68 (Anderson).

339. **Buchanga atra cathoeca** Swinh.

*Buchanga atra* Anderson, *Western Yunnan*, ii. p. 653.

Two; Sanda and Muangla, May 1868 (Anderson).

Ching-tung, Yunnan, 8. iii. 99 (Wingate).

340. **Buchanga longicaudata** (Hay).

Anderson, *Western Yunnan*, p. 654.

Four specimens, Sanda Valley, W. Yunnan, May 1868 (Anderson).

341. **Buchanga cineracea nigrescens** Oates?

*Buchanga leucophaea* Oustalet, *Bull. Mus. Paris*, 1896, p. 185.

4 ♂♂; Mongtse, S. Yunnan, May, June 1910 (Owston).

Ching-tung, Yunnan, 4. iii. 99 (Wingate).

These birds would apparently belong to the form called *nigrescens*, but careful comparison of more material is desirable (cf. Hart. *Nor. Zool.* xvii. p. 249 (1910)).

342. **Bhringa remifer** (Temm.).

Anderson, *Western Yunnan*, p. 652.

♂; Pongsee, April 1868 (Anderson).

S.W. Yunnan, April 1899 (Wingate).

343. **Corvus macrorhynchus levaillantii** Less.

*Corvus levaillantii* Lesson, *Anders. Western Yunnan*, p. 589.

Two, Pongsee, March 1868 (Anderson).

Two, Manwyne, 12. v. 68                   ,,

One, Monien, 3. vi. 68                   ,,

344. **Coloelus dauuricus** (Pall.).

2 ♂♂ ad. et juv.; Mongtse, Yunnan, June 1910 (Owston).

345. **Coloelus neglectus** (Schl.).

Lichiang Valley, 19. iii. 06 (Rippon).

Talifu Valley, 25. ii. 06.

346. **Nucifraga hemispila yunnanensis** Ingram.

*Nucifraga yunnanensis* Ingram, *Bull. B.O.C.* xxv. p. 86 (1910).

Talifu Valley, W. Yunnan, 21-24. ii. 06, 21. v. 06 (Rippon).

Yangtse big bend, 24. iii. 06 (Rippon).

347. **Pica pica sericea** Gould.

*Pica pica sericea* Hartert, *Vög. Pal. Faun.* i. p. 22 (1903).

*Pica rustica* Anderson, *Western Yunnan*, p. 590.

2 ♂♂: Pensee, 5. v. 68 (Anderson).

Talifu Valley, 25. ii. 06 (Rippon).

348. **Urocissa erythrorhyncha** (Gm.) = **Urocissa sinensis** (Linn.).

3 ♂♂, 2 ♀♀ were sent from Mongtse, Yunnan, shot in the months of May, June 1910 (Owston).

The Yunnan birds agree fairly well with typical Chinese specimens, and certainly do not belong to the Burmese race *magnirostris*. Anderson, however (*W. Yunnan Exped. Accs.*, p. 592), referred a bird killed by him in the Hotha Valley, Yunnan, to the latter form.

There is a large series of these Blue Magpies in the Tring Museum from Tai-pai-shan (Tsin-ling Mountains). These are somewhat light in colour, with the back very lightly washed with purplish blue.

349. **Urocissa occipitalis** (Blyth).

Lichiang, 11. iii. 06 (Rippon).

Yangtse big bend, 29. iii. 06 (Rippon).

Tali Valley, 15. iv. 06 (Rippon).

Yangpi-Chutung road, 23. iv. 06 (Rippon).

350. **Dendrocitta himalayensis** (Vig.).

♀ ad.: S.W. Yunnan, April 1868 (Anderson).

♂ ad.: Ching-tung, 4. iii. 99 (Wingate).

Also obtained in Yunnan by Prince Henry of Orleans.

351. **Garrulus glandarius sinensis** Swinh.

Yangtse big bend, 24-30. iii. 06 (Rippon).

352. **Pyrrhocorax graculus** (Linn.).

Lichiang Valley, 2. iv. 06 (Rippon).

---

## ORNITHOLOGISCHE MISZELLEN AUS DEM INDO-AUSTRALISCHEN GEBIET.

VON ERWIN STRESEMANN.

### I. Die Formen von *Lamprocorax metallicus*.

#### 1. *Lamprocorax metallicus metallicus* (Temm.).

*Lamprotornis metallicus* Temminck, *Pl. Col.* vol. ii. 1824. pl. 265.—Timor (!), Celebes (!).  
*Calornis viridescens* Gray, *P.Z.S.* 1858. p. 181.—Aru.  
*Calornis amboinensis* Gray, *P.Z.S.* 1858. p. 181.—Ambon.  
*Calornis gularis* Gray, *P.Z.S.* 1861. pp. 431, 435.—Misol.  
*Calornis purpurascens* Gray, *Handl. B.* vol. ii. 1870. p. 26.—Cape York.  
 ? *Lamprocorax metallicus sapphire* Mathews, *Nor. Zool.* vol. xviii. 1912. p. 437.—Nord-Queensland.

Oberkopf, Ohrgegend, Kropf und Interseapularregion mit lebhaft rotvioletten Reflexen; die so gefärbten Federn der Interseapularregion umschliessen ein meist sehr stark hervortretendes blaugrünes Feld. Im übrigen grün; die violettrote Färbung von Kopf und Interseapularregion durch ein breites grünes Nackenband getrennt.

*Verbreitung*: Nordaustralien, Neuguinea, Jobi, Salawatti, Batanta, Waigiu, Misol, Molukken, Kei- und Arn-Inseln.

#### 2. *Lamprocorax metallicus nitidus* (Gray).

*Calornis nitida* Gray, *P. Z. S.* 1858. p. 181.—Neu-Mecklenburg.  
*Calornis metallicus* pt., Rothschild u. Hartert, *Nor. Zool.* vol. x. 1903. p. 114.

Farbenverteilung ähnlich wie bei der vorigen Form, aber der rötliche Fleck in der Interseapularregion ist viel weniger lebhaft gefärbt und weniger scharf umgrenzt, oft verschwindend klein, und **umschliesst kein blaugrünes** Feld.

Im Tring-Museum 29 adulte Exemplare von den Salomon-Inseln Guadalcanar, Ysabel, Vella Lavella, Choisenl, San Christoval, Fauro und Bongainville, sowie von Neu-Lauenburg und Neu-Pommern.

#### *Lamprocorax metallicus metallicus* $\geq$ *nitidus*.

Exemplare vom Louisiade- und D'Entrecasteaux-Archipel sind intermediär. Im Tring-Museum von Woodlarks-Insel, St. Aignan, Südost-Insel, Fergusson-Insel und Rossel-Insel (nec Russell-Insel im Salomon-Archipel!).

#### 3. *Lamprocorax metallicus inornatus* (Salvad.).

*Calornis inornata* Salvadori, *Ann. Mus. Civ. Gen.* vol. xvi. 1880. p. 194.—Misorì.

Oberkopf sehr dunkel und mit relativ geringem Glanz, jede einzelne Feder dieser Region dunkelviolett mit schmalen grünem Querband. Oberrücken dunkel rötlich violett, im Nacken ein undeutliches dunkelgrünes Band. Federn von Kinn und Kehle grünmetallisch mit violettroter Binde. Kropffedern dunkel rötlich violett. Übrigens grün.

*Verbreitung*: Misorì (3 Ex. im Tring-Museum).

4. *Lamprocorax metallicus purpureiceps* (Salvad.).

*Calonüs purpureiceps* Salvadori, *Atti R. Accad. Sci. Torino* vol. xiii. 1878. p. 535.—Admiralitäts-Inseln.

“ Von *Lamprocorax metallicus metallicus* unterschieden durch geringere Grösse, viel geringere Länge der spitzen Federn des Vorderhalses und dadurch, dass die rötlichen Reflexe auf Oberkopf, Kinn und Kehle beschränkt sind.” [Nach Salvadori !]

*Verbreitung*: Admiralitäts-Inseln.

5. *Lamprocorax metallicus circumscriptus* (A. B. M.).

*Calonüs circumscriptus* A. B. Meyer, *Sitzungsber. u. Abh. Nat. Ges. Isis* 1884. p. 49.—Timorlaut.

Oberkopf, Wangen, Nacken und Vorderrücken, Kinn und breites Kropfband lebhaft violettrot, im Nacken ein sehr schmales blaugrünes Band. 14 Exemplare im Tring-Museum von Tenimber und Damar.

*Verbreitung*: Tenimber, Damar.

ANMERKUNG.—*Lamprocorax fuscovirescens* (Salvad.) ist nicht als Subspecies von *L. metallicus*, wie Sharpe im *Cat. B.* vol. xiii. p. 141 annimmt, sondern als solche von *L. obscurus* aufzufassen.

II. Einiges über das Genus *Gracula* und seine Arten.\*

Der Gattungsname *Gracula* (Linn. *Syst. Nat.* ed. x. 1758 p. 198) wird von Sharpe im *Cat. B.* und in der Hand-List nicht angewendet, da, wie dieser Autor im *Cat. B.* vol. xiii. p. 98 auseinandersetzt, die bei Linné aufgeführten Arten ein derartiges mixtum compositum darstellen, dass man den Namen nicht mit Sicherheit auf einen Typus zurückführen kann und die Methode der Elimination nicht dazu führt, dass man einen “Maino” als Restbestand erhält. Salvadori hat (*Ann. Mus. Civ. Gen.* vol. 32, 1892, p. 137) die Anwendung des Namens *Gracula* auf diese Vögel vergeblich auf die Durchführung der genannten Methode zu begründen versucht: *Gracula saularis* L. ist erst 1827 durch Wagler in eine andere Gattung eingeordnet worden, während Cuvier schon 1817 für *Gr. religiosa* L. den Gattungsnamen *Eulabes* schuf. Zwingende Gründe bestehen also bisher nicht, den Namen *Gracula* für diesen oder jenen Vogel weiterzuführen; da es indessen nicht opportun erscheint, einen Linnéschen Gattungsnamen ausser Gebrauch geraten zu lassen, so muss der Typus designiert werden (cf. Art. 30 der Internationalen Regeln der Zool. Nomenklatur). *Gracula religiosa* L. ist als Typus der Gattung festzulegen und der Gattungsnamen *Eulabes* Cuv. 1817 zu den Synonymen zu stellen.

Zur Vereinfachung der bei *Gracula* taxonomisch wichtigen Bezeichnungen führe ich die folgende Terminologie ein:

Nacktes Hautfeld unter dem Auge = **Subocularfeld**.

Hinter dem Auge beginnender nackter Hautstreif, der mit der Basis der Nackenlappen in Verbindung steht = **Temporalwulst**.

Der diese beiden Hautfelder trennende Federstreif = **Parialstreif**.

Der vom medianen Teil des Nackenlappens zum Scheitel ziehende Hautwulst = **Occipitalwulst**.

\* Abgeschlossen 15. x. 1912. Die von Oberholser in *Smiths. Misc. Coll.* vol. 60, No. 7, pp. 16—17, beschriebenen Formen konnten daher mehr nicht berücksichtigt werden.



## Übersicht der Arten.

1. Subocularfeld fehlt . . . . . *Gr. ptilogens.*
2. Subocularfeld ausgebildet :
  - A. Temporalwulst fehlt . . . . . *Gr. robusta.*
  - B. Temporalwulst ausgebildet.
    - a. Occipitalwulst ausgebildet.
      - α. Flügel unter 150 mm. . . . . *Gr. religiosa.*
      - β. Flügel über 160 mm. . . . . *Gr. venerata.*
    - b. Occipitalwulst fehlt . . . . . *Gr. javana.*

Übersicht der Formen von *Gracula javana*.

1. Parialstreif in Connexion mit den Ohrdecken.
  - A. Nackenlappen an der Basis mit einander verwachsen : *Gr. j. enganensis.*
  - B. Nackenlappen an der Basis nicht mit einander verwachsen.
    - a. Parialstreif an der schmalsten Stelle in der Regel unter 1 mm. breit . . . . . *Gr. j. palawanensis.*
    - b. Parialstreif an der schmalsten Stelle über 1 mm. breit.
 

*Gr. j. javana.*
2. Parialstreif durch einen nackten Hautstreif von den Ohrdecken getrennt.
  - a. Parialstreif breiter . . . . . *Gr. j. intermedia.*
  - b. Parialstreif schmaler . . . . . *Gr. j. andamanensis.*

Eine Untersuchung des Materials im Tring-Museum hat mich zu der Überzeugung gebracht, dass die von Finsch aufgestellte *Gracula batuensis* als Synonym von *Gr. j. enganensis* Salvad. zu betrachten ist. Die von Finsch in seiner Arbeit "Das Genus *Gracula* und seine Arten" (*Not. Leyd. Mus.* vol. 21, 1899, pl. 1 u 2) gegebenen Zeichnungen sind gänzlich irreführend. Exemplare von Pulu Telo, Siobau (Mentawai-Archipel) und Engano stimmen gut miteinander überein, alle zeigen sie auch mehr oder minder angedehnte Verwachsung der Nackenlappen, und die Finsch'sche Angabe, dass diese Merkmal bei Engano-Exemplaren fehle, bestätigt sich nicht. Salvadori hat in *Ann. Mus. Cic. Gen.* vol. 34, 1894, p. 599 die Si-Oban-Exemplare irrtümlich als *Gracula javanensis* bezeichnet. Differenzen in der Ausdehnung des Flügelspiegels gegenüber javanischen Stücken kann ich auch bei Pulu-Telo-Vögeln nicht constatieren entgegen den Befunden Finsch's. Dagegen erweist sich das für *enganensis* und *batuensis* angegebene Merkmal, dass der Temporalwulst durch einen grösseren befiederten Raum vom hinteren Augenrand getrennt ist als wie bei *javana*, als ziemlich constant. Die Flügel messen (in mm.) bei Exemplaren von Pulu Telo 175, 185; von Si-Obau, 181, 186; von Engano, 173, 178. Salvadori gibt als Masse seiner Engano Exemplare 170–180 mm. an, Finsch hat als Flügelmaass von vier Stücken von Pulu Batu 190–195 mm. ermittelt. Es könnte also nach diesen beiden Angaben scheinen, als seien Stücke von Engano wesentlich kleiner; doch ist hierbei die beträchtliche lokale Grössenvariation der *Gracula*-Arten, auf die ich bei der Besprechung von *Gr. javana javana* eingehen werde, und ferner der Umstand zu berücksichtigen, dass man aus Vergleichen von Massen verschiedener Autoren keine sicheren Schlüsse ziehen kann, da die Massmethoden oft verschiedene sind.

Das bei der Übersicht der Formen von *Gr. javana* als unterscheidendes Kennzeichen der Gruppen 1 und 2 angegebene Merkmal ist zwar in der weitaus

grössten Mehrzahl der Fälle entscheidend, bei einigen Exemplaren jedoch nicht ausreichend. Es ist in geringem Grade von der Art der Präparation abhängig, und lokal-typische intermedia, bei deren Bälgen die orbita nicht oder nur wenig ausgestopft wurde, können infolge Schrumpfung der Haut eine Verbindung des Parialstreifs mit den Ohrdecken vortäuschen, während umgekehrt bei *Gr. j. javana* die übermässige Dehnung der Haut eine Unterbrechung der Federlinie verursachen kann. In solchen Fällen entscheidet die Grösse oder die Schnabelform; bei *Gr. j. javana* ist der Schnabel höher, relativ kürzer und infolge dessen die Firstlinie stärker gebogen, ein Kennzeichen, das indessen erst bei grösseren Serien deutlich wird.

Dass die Grösse meist, aber nicht immer entscheidend ist, mag folgender Vergleich der Flügelmasse (in mm.) beweisen. (Ich berücksichtige in dieser Tabelle nur adulte Exemplare.)

#### **Gr. javana javana.**

*Bali*: ♂♂ 163, 168, 168—*Kangean*: ♂ 174, ♀ 162—*Java* (nach Finsch *l.c.*, und Parrot, "Beiträge zur Ornithologie Sumatras," in *Abh. Bayer. Akad. Wiss.* 1907, p. 257): 173–178—*Sumatra* (nach Finsch): 163–185—*Borneo* (nach Finsch): 170–188—*Natuna* und *Sirhassen*: ♂♂ 184, 188, 190; ♀♀ 174, 181, 181—*Malakka*: ♂♂ 183, 181; ♀ 175; unsec. 172, 177, 179.

#### **Gr. javana intermedia.**

*Hainan*: 154, 158, 158, 159, 159, 160, 161, 162, 162, 163, 164, 165, 166—*Nord- und Hinter-Indien*: 146, 154, 157, 158, 159, 160, 160, 161, 161, 162, 162, 163, 163, 164, 164, 167, 170—*Malakka*: 157, 160, 161—*Salanga* (nach A. Müller, *J. f. O.*, 1882, p. 391): 5 Ex. 150–170, mittel: 157.6. *Tenasserim*: ♂ 175.

Es erscheint mir nicht ausgeschlossen, dass die Formen sich in Malakka und im südlichen Tenasserim zuweilen vermischen, wenn auch eine derartig starke Verwischung der Grenzen, wie sie A. Müller *l.c.* pp. 389–390 annimmt, nicht zu bestehen scheint und die Bestimmung der Subspecies auch bei Malakka-Stücken im Allgemeinen keine Schwierigkeiten macht.

Hartert hält in *Nor. Zool.* vol. xvii. 1910 p. 251 eine Abtrennung des Hainavogels unter Benutzung des Swinhoeschen Namens *hainanus* für möglich. Ich kann nach Prüfung des gleichen Materials seine Ansicht nicht teilen; irgend welcher Unterschied in der Grösse besteht nicht, wie aus der vorstehenden Massentabelle ersichtlich ist; ebenso muss die scheinbar verschiedene Gestalt der Endigung des Temporalwulstes offenbar auf verschiedene Präparationsweise zurückgeführt werden, wie auch Hartert bereits vermutete.

Die Form *Gr. j. andamanensis* steht zwar *intermedia* recht nahe, ist aber durch das in der Übersicht angegebene Kennzeichen meist gut unterscheidbar. Nur zwei der mir vorliegenden Stücke sind nicht typisch und gleichen in der Ausbildung des Parialstreifens continentalen Exemplaren. Al.: 155, 160, 160, 166, 167, 170.

*Gr. j. palawanensis* ist durch den im oberen Drittel überaus schmalen Parialstreif meist sehr kenntlich und erweist sich auch als durchschnittlich kleiner wie *Gr. j. javana*. Ich messe: 160, 161, 165, 171 mm.; McGregor (*Phil. Birds*, p. 721) gibt 162 und 168 mm. an.

Über den Artnamen *javana* Cuvier für *javanensis* Osbeck vergl. Hartert, *Nor. Zool.* vol. ix. 1902 p. 439.

Die Arten verteilen sich :

*Gr. ptilogenys* Blyth : Ceylon.

*Gr. robusta* Salvad. : Nias, Pulu Babi, Banjak-Inseln.

*Gr. religiosa* L. : Südindien und Ceylon.

*Gr. venerata* Bp. : Sumbawa, Flores, Pantar, Alor.

*Gr. jarana javana* (Cuv.) : Bali, Kangean, Java, Sumatra, Billiton, Banka, Borneo, Natuna, Malakka, Süd-Tenasserim, Simalur.

*Gr. jarana palawanensis* (Sharpe) : Palawan, Balabac, Calamianes.

*Gr. javana enganensis* Salvad. : Engano, Mentawai- und Batu-Inseln.

*Gr. jarana intermedia* A. Hay : Nord-Indien, Burma, Tenasserim, Nord-Malakka, Cochinchina, Südwest-China, Hainan.

*Gr. jarana andamanensis* (Beavan) : Andamanen und Nikobaren.

### III. Die indo-malayischen Formen von *Anthus richardi* Vieill.

Die im folgenden besprochenen Formen werden im *Cat. B.* vol. x. 1885 p. 574, und in Sharpe's *Handlist*, vol. v. 1909, p. 148, zusammen mit einer Anzahl afrikanischer Formen (über letztere cf. O. Neumann, *J. f. O.*, 1906, p. 231) unter dem Namen *Anthus rufulus* Vieill. aufgeführt. Es beherbergt indessen das indo-malayische Gebiet ebenso wie das tropisch-afrikanische mehrere wohl unterschiedene, sich geographisch vertretende Formen, von denen eine östliche bereits durch Hartert in *Nor. Zool.* vol. iii. 1896 p. 558 unter dem Namen *Anthus rufulus medius* Wall. charakterisiert wurde. Das Studium des reichhaltigen Materials im Tring-Museum ergab die Notwendigkeit einer weiteren Aufteilung. Ich betrachte alle diese Formen als Subspecies von *Anthus richardi*, eine Ansicht, die bereits Hartert in: *Vögel d. pal. Fauna*, vol. i. 1905, p. 266, vertreten hat. Eine scharfe Grenze zwischen *Anthus richardi* und *Anthus rufulus* lässt sich nicht ziehen, und "*Anthus rufulus*" aus Vorderindien steht *A. richardi richardi* Vieill. und *A. richardi striolatus* Blyth offenbar näher als den östlichen Vertretern (*Anthus medius* Wall.).

#### 1. *Anthus richardi medius* Wall.

*Anthus medius* Wallace, *P. Z. S.* 1863, p. 488.—Timor (und Lombok).

Wallace hat kein bestimmtes Exemplar als Typus designiert; es haben ihm vielmehr ein Timor- und ein Lombokstück gleichzeitig bei der Beschreibung der Art vorgelegen. Ich beschränke den Namen *A. medius* auf die östliche Form, mit dem Wallace'schen Timorvogel als Typus, den er in seiner Beschreibung an erster Stelle anführt.

Federn der Oberseite bräunlich schwarz mit breiten hellbräunlich sandfarbenen Säumen; der Übergang zwischen beiden Färbungen ist ziemlich schroff, wodurch die Vögel oberseits scheckiger erscheinen als *A. r. malayensis*, *albidus* und *lugubris*. Unterseite wesentlich heller als *rufulus*, *malayensis* und *lugubris*, aber nicht ganz so weiss wie *albidus*, insbesondere zeigen die Flanken und die mit mässig breiten, keilförmigen, fast schwarzen Schaffflecken ausgezeichneten Federn der Kropfgegend einen etwas ausgeprägter ockergelben Anflug. Krallen der Hinterzehe mässig entwickelt, etwa so lang wie bei *albidus* und kürzer wie bei den drei übrigen Formen.

24 Exemplare geprüft.

*Verbreitung* : Timor, Kisser, Savu, Letti, Moa, Sermata.

2. *Anthus richardi albidus* subsp. n.

Oberseite sehr dunkel; die bräunlich schwarzen Federn des Rückens mit dunkelgrünen, etwas ins granolivfarbene übergehenden Säumen. Brännliche Töne treten sehr zurück. Federn des Oberkopfes und Nackens hell grünlich cremefarben gesäumt. Superciliarstreif schmutzig weiss.—Unterseite schmutzig weiss, einige Exemplare ohne irgend welchen gelbbräunlichen Anflug, bei den anderen nur die Federn der Kropfgegend leicht ockergelb überflogen; Schaftstriche der Kropffedern fast schwarz, mässig breit, keilförmig.

Typus: ♂, Süd-Flores, Oktober 1896, A. Everett coll., im Tring-Museum.

17 Exemplare geprüft.

Verbreitung: Bali, Lombok, Sumbawa, Flores, Sumba.

3. *Anthus richardi malayensis* Eyton.

*Anthus malayensis* Eyton, P. Z. S. 1839, p. 104.—Malakka.

*Anthus ewonyr* Cabanis, Mus. Hein. vol. i. 1850, p. 14.—Java.

[*Corydalla rasselli* Brehm ex Temm. M.S., errat. für *hasselli*, Nummannia 1856 p. 463—nomen nudum!] *Anthus hasselli* Schlegel ex Temminck M.S., Handl. Dierk. vol. i. 1857, p. 263—Java.

Ganze Unterseite wie bei *A. r. rufulus* blass ockergelb verwaschen, die Kropfgegend und die Flanken am dunkelsten, und nur die Kehle weiss. Schaftstriche der Kropffedern gross, schwarzbraun. Superciliarstreif blass ockergelb.—Färbung derjenigen Oberseite der von *A. r. albidus* sehr ähnlich, aber etwas bräunlicher.

2 Exemplare aus dem Gebirge von Ostjava sind unterseits etwas weisslicher als die übrigen und nähern sich *A. r. albidus*.

13 Exemplare geprüft.

Verbreitung: Malakka, Borneo (?), Sumatra, Java.

4. *Anthus richardi lugubris* (Walden).

*Corydalla lugubris* Walden, Trans. Zool. Soc. Lond. vol. ix. 1877, p. 198.—Guimaras (Philippinen).

Diese Form zeichnet sich vor allem durch die abweichende Gestalt der dunklen Flecken in der Kropfgegend aus, die viel schmaler sind als bei den Exemplaren von anderen Localitäten, zuweilen nur einen dünnen Strich längs des Federschaftes bildend. Die Oberseite ist ähnlich derjenigen von *malayanus* (und viel dunkler als bei *rufulus*), die Federsäume besitzen indessen einen ausgesprochen olivbräunlichen Ton.

13 Exemplare geprüft.

Verbreitung: Philippinen, Palawan.

5. *Anthus richardi rufulus* Vieill.

*Anthus rufulus* Vieillot, Nouv. Dict. d'Hist. Nat. vol. 26, 1818, p. 494.—Bengalen.

*Cichlops ubiquitousus* Hodgson, Icon. ined. in Brit. Mus., Passeres, pl. 122 f. 1, 2.—Nepal.

*Cichlops fortipes* Hodgson, l.c. pl. 122a f. 2.—Nepal.

Färbung der Unterseite mit derjenigen von *A. r. malayanus* übereinstimmend, aber die Oberseite viel bräunlicher, die Federn mit hellen sandbraunen Säumen. In dieser Hinsicht *A. r. richardi* und *A. r. striolatus* sehr ähnlich; die letzteren sind indessen grösser. Flügellänge von *A. r. rufulus*: 76–86 mm.

21 Exemplare geprüft.

Verbreitung: Vorder- und Central-Indien; Ceylon.

IV. Die Formen von *Munia punctulata* (L.).

## Übersicht.

1. Oberschwanzdecken und innerste Steuerfedern bräunlich goldgelb oder grünlich goldgelb . . . . . *M. p. punctulata* und *M. p. subundulata*.
2. Oberschwanzdecken und innerste Steuerfedern dunkel aschgrau.  
*M. p. nisoria*.
3. Oberschwanzdecken und innerste Steuerfedern stumpf grünlich gelb oder dunkel ockergelb.
  - a. Oberseite rötlich dunkelbraun . . . . . *M. p. blasii*.
  - β. Oberseite heller, stumpf braun.
    - a. Flügel 46–51 mm. . . . . *M. p. cabanisi*.
    - b. Flügel 52–55 mm. . . . . *M. p. topela*.

***Munia punctulata blasii* subsp. n.**

Von *M. p. nisoria*, mit der diese Form bisher vereinigt wurde, sofort durch die im Schlüssel angegebene Färbung der Oberschwanzdecken und Steuerfedern zu unterscheiden. Dieses Kennzeichen ist bereits Sharpe aufgefallen, cf. *Cat. B.* vol. xiii, p. 353: "Flores examples show more yellow on the tail than those from Malakka." Ebenso sagt Büttikofer in *Not. Leyd. Mus.* vol. xiv, 1892, p. 202 von Exemplaren aus Sumba: "In coloration they approach very much the species *M. topela* . . . in having the upper tail-feathers tinged with green." Die Differenzen gegenüber *nisoria* in der Breite der Bänderung auf der Unterseite und in der Färbung der Oberseite, die Büttikofer ausserdem angibt, sind individueller Natur gewesen.

Von *M. p. topela* Swinh. ist die Form durch viel dunklere und deutlichere Bänderung der Unterseite und durch die Färbung der Oberseite leicht zu unterscheiden. In dieser Hinsicht gleicht sie *M. p. nisoria*.

Im Tring-Museum befindet sich ein Exemplar, gesammelt von Dr. Platen in Timor-Deli 12. März 1885, das in Wilhelm Blasius' Handschrift einen nicht publicierten Namen trägt und als Typus dieser Art bezeichnet ist. Ich benenne die Form zum Andenken an den Verstorbenen und wähle sein Exemplar als Typus.

41 adulte Exemplare geprüft und mit 18 *nisoria* und 65 *topela* verglichen.

*Verbreitung*: Flores, Sumba, Savu, Lembren, Timor, Kisser, Letti, Moa, Roma, Babber, Tenimber.

Das Tring-Museum besitzt nur zwei Exemplare von *Munia punctulata* aus Celebes, beide aus der Gegend von Makassar. Sie weichen von allen anderen Formen dadurch ab, dass die Steuerfedern und Oberschwanzdecken grangrün sind. Die Färbung der Oberseite ist ein stumpfes Braun wie bei *topela* und *cabanisi*, während die Unterseite breit gebändert ist und in der Zeichnung dieser Region mit *nisoria* und *blasii* übereinstimmt, nicht aber in der Färbung der Federsäume, welche diese Bänderung hervorrufen; denn diese ist bei den Celebesstücken ein ausgeprägtes Braun, bei *nisoria* und *blasii* dagegen ein meist sehr tiefes Schwarzbraun. Ganz übereinstimmend sagen Meyer und Wieglesworth in *The Birds of Celebes*, vol. ii, 1898, p. 548, von einem Makassarvogel: "Tail greenish drab, greener on the middle feathers. Underparts elsewhere marked with U-shaped

bars of rufous brown." Sehr wahrscheinlich muss die Celebesform eigens benannt werden, doch ist ein grösseres Material wünschenswert.

*Mania punctulata cabanisi* ist in der Färbung *M. p. topela* sehr ähnlich, aber sofort an der geringeren Grösse kenntlich.

Flügelänge in mm. (unter Benützung des Materials in Tring und London):

*M. p. topela*: 52, 52, 52, 53, 53, 53, 53.5, 54, 55, 55.

*M. p. cabanisi*: 46, 49, 49, 50, 50, 50, 50, 50, 51, 51.

Den geringeren Gesamtproportionen entsprechend ist auch der Schnabel bei *M. p. cabanisi* auffällig kleiner.

Zur Beurteilung der Stellung von *M. p. subundulata* liegt mir zu wenig Material von dieser Form vor. Es hat indessen den Ansehen, als sei sie keineswegs constant, und als bezeichne man unter diesem Namen die zahlreichen Übergangstufen zwischen *M. p. punctulata* und *topela*, die als solche keinen selbständigen Namen verdienen, sondern am geeignetsten durch die Formel *M. p. punctulata*  $\leq$  *topela* ihren taxonomischen Ausdruck finden würden.

Von grossem Interesse sind einige Exemplare von den ostafrikanischen Inseln, wo die Art nach Hartlaub (*die Vögel Madagascars*, p. 403), eingeführt worden ist. Im Tring-Museum befinden sich 3 ausgefärbte Exemplare aus Rénnion, 3 aus Mauritius und eines von den Seychellen. Eines von diesen, aus Mauritius stammend, stimmt in der Färbung aller Teile vollkommen mit typischen vorderindischen Stücken überein, die übrigen haben einen graugelben Bürzel und grünlich grane Stenerfedern und halten die Mitte zwischen *nisoria* und *blasii*. Büttikofer beschreibt (l.c., p. 203) sechs Exemplare von Bourbon, und gibt als Färbung von Bürzel und äusseren Steuerfedern an: "Not ashy gray, but sensibly tinged with pale olive-green." Sharpe und Büttikofer stellen diese Vögel zu *M. p. nisoria*; Meyer und Wiglesworth knüpfen (l.c. p. 549) an die Büttikofer'sche Notiz die Betrachtung: "The example serves to illustrate our postulate that colonists become changed more than stayers-at-home." Sollte es sich vielleicht um Bastarde zwischen *M. p. punctulata* und *nisoria* handeln?

Die Formen von *Mania punctulata* verteilen sich folgendermassen:

*M. p. punctulata* (L.): Ceylon und Vorderindien bis zum Himalaya, Assam und Cachar.

"*M. p. subundulata* Godw. Aust.": Cachar, Manipur, Burma, Tenasserim, Siam, Cochinchina.

*M. p. topela* Swinh.: Südchina, Hainan, Formosa.

*M. p. cabanisi* Sharpe: Luzon, Mindoro, Panay.

*M. p. subsp.?*: Celebes.

*M. p. blasii* Stres.: Flores bis Tenimber.

*M. p. nisoria* (Temm.): Malakka, Sumatra, Java, Bali, Lombok.

## V. Die Formen von *Ploceus manyar* (Horsf.).

Sharpe vereinigt im *Cat. B.* vol. xiii. p. 496, und in seiner Handlist, vol. v. 1909, p. 481, den indischen mit dem javanischen Vogel, und seinem Beispiel sind alle neueren Autoren gefolgt. Der Unterschied beider Formen ist indessen recht beträchtlich, und es ist sehr auffällig, dass er so lange übersehen werden konnte,

zumal dieser in seiner Heimat häufige Vogel auch in den Sammlungen keineswegs selten ist. Reichenow erwähnt in seiner "Monographie der Gattung *Ploceus*" (*Zool. Jahrb.* vol. i. 1886), die Art nicht von Java.

### 1. *Ploceus manyar manyar* (Horsf.).

*Fringilla manyar* Horsfield, *Trans. Linn. Soc. Lond.* vol. xiii. 1822, p. 160.—Java.

*Neliceurcius emberizinus* Reichenbach, *Aust. Sing.* 1861, p. 76.—Ceram (!).

*Abbildung*: Reichenbach, *Aust. Sing.* p. 34, f. 269–72.

*Verbreitung*: Java, Bali.

### 2. *Ploceus manyar flaviceps* Less.

*Ploceus flaviceps* Lesson, *Traité d'Oeu.* 1831, p. 435.—Pondicherry.

*Euplectes striatus* Blyth, *J. A. S. Beug.* vol. xi. 1842, p. 872.—Bengalen.

*Neliceurcius flaviceps* Reichenbach, *Aust. Sing.* 1861, p. 75.—"Bengalen, Nepaul, Assam, Scinde, Südindien, Tenasserim, Java."

*Verbreitung*: Vorderindien, Ceylon, Central-Indien, Burma, Tenasserim.

Reichenbach, der freilich über die Herkunft seines *Neliceurcius emberizinus* im Irrtum war, hat die Formen bereits treffend charakterisiert mit den Worten: "Der *emberizinus* ist besonders durch die feine Schaftstreifung seiner Brust ausgezeichnet, während bei *flaviceps* sowohl die Schaftstreifen der Brust, als auch zahlreiche dergleichen an den Seiten und nach hinten breiter und länger sind." Dieses Merkmal findet sich bei beiden Geschlechtern, doch ist beim ♀ der Unterschied auffälliger. Sehr charakteristisch ist insbesondere, dass *flaviceps* eine ausgeprägte Schaftstreifung in der Weichengegend anweist, während diese Zeichnung bei *manyar* hier nur noch schwach angedeutet ist. Kennzeichnend für *manyar* ist ferner der intensiv röstlich braune Ton der Federn an Brust und Flanken; bei *flaviceps* sind dieselben sehr fahl isabellfarben oder gelblich isabellfarben. Bei *manyar* ist die Bauchmitte ziemlich scharf abgesetzt weisslich, bei *flaviceps* hingegen findet ein ganz allmählicher Farbenübergang statt. Alle diese Merkmale zeigen Reichenbachs Abbildungen recht charakteristisch. Die Oberseite ist bei *flaviceps* dunkler, da die dunklen Federcentren, insbesondere beim ♀, in der Regel breiter und schwärzer sind. Schliesslich sind beim ♀ von *flaviceps* die Federn des Oberkopfes hell graubraun gesäumt, bei *manyar* dagegen bräunlich gelb.

## VI. Die Formen von *Pratincola caprata* (L.).

### 1. *Pratincola caprata caprata* (L.).

*Motacilla caprata* Linné, *Syst. Nat.* ed. xii. 1766, p. 335.—Luzon.

♂ *ad.* Hauptfärbung ein tiefes glänzendes Schwarz; Oberschwanzdecken und Spitzen der Federn des Unterrückens reinweiss, die zwei längsten Oberschwanzdeckfedern mit schwarzen Enden; Unterschwanzdecken und apikale Hälfte der Federn an Bauch und Weichengegend weiss; grosse Deckfedern der innersten Armschwingen, kleine innerste Flügeldeckfedern und Basis der Aussenfahnen der innersten Armschwingen weiss, wodurch ein grosser länglicher Fleck gebildet wird. In ganz frischem Gefieder sind die Federn von Kopf, Hals und Rücken mit sehr schmalen fahlbraunen Säumen versehen, diejenigen von Unterbrust und Bauch mit breiteren weisslichbraunen; ebenso besitzen dann die Oberschwanzdecken fahl rostfarbene Endsäume.

Flügellänge in mm.: 64, 65, 67, 68, 70, 70.

♀ *ad.*: Federn der Oberseite dunkel brännlich grau, mit dunkleren Centren; Oberschwanzdecken und Spitzen der Federn des Oberrückens röstlich zimmtfarben; Unterseite hell graubraun, rostbraun verwaschen, letztere Färbung besonders an Hinterbrust und Bauch deutlicher ausgeprägt; Kehle hell weissgrau. Alle Federn der Unterseite mit schwarzbraunen Centren.—Schwingen und Oberflügeldecken schwarzbraun mit weissgrauen bis fahl röstlichen Säumen. Steuerfedern tief schwarzbraun. Unterschwanzdecken weisslich bis zimmtfarben.—In abgenutztem Gefieder ist die Ober- und Unterseite dunkler, auf letzterer tritt die rostbraune Färbung weniger deutlich hervor.

Flügelänge in mm.: 63; 63; 64,5; 65; 65; 65; 65; 66,5; 67.

*Erstes Jugendkleid*: Oberseite des ♂ schwarzbraun, des ♀ dunkelbraun; Federn von Kopf und Nacken mit kleinen, diejenigen der übrigen Oberseite mit grösseren weisslichen Apicalflecken. Bürzelfedern beim ♀ fahl zimmtfarben, beim ♂ weiss mit breiten rostfarbenen Spitzen. Federn der Unterseite dunkelbraun mit breiten hell weissgrauen Flecken, die zuweilen einen rostfarbenen Anflug haben und dunkelbraun gesäumt sind. Bauch weisslich grau mit ocker-gelbem Anflug. Unterschwanzdecken weisslich.—Schwingen und Steuerfedern beim jungen ♂ und ♀ wie beim alten Vogel, aber die Sekundären mit breiten hellen Säumen auch beim ♂. *Der weisse Flügelspiegel des ♂ ist bereits in diesem Kleide ausgebildet.*

*Verbreitung*: Philippinen.

## 2. *Pratincola caprata bicolor* (Sykes).

*Saricola bicolor* Sykes, *Proc. Zool. Soc. Lond.* 1832. p. 32.—Deccan.

Der vorigen Form sehr ähnlich, aber durch auffallend schlankeren Schnabel und durchschnittlich etwas bedeutendere Grösse unterschieden. Beim ♂ ist das Weiss an den Federn von Bauch und Flanken ausgedehnter.

Flügelänge in mm.:

♂♂: 64; 67; 67; 67; 68; 69; 69; 69; 69; 70; 71; 72.

♀♀: 64; 65; 65; 66; 66; 66; 66,5; 67; 67; 68; 69; 69.

*Verbreitung*: Ganz Vorder- und Centralindien bis nördlich zum Himalaya, Burma, Tenasserim [und Malakka?].

## 3. *Pratincola caprata atrata* Blyth.

*Pratincola atrata* Blyth, ex Kelaart MS., *J. A. S. Beng.* vol. xx. 1851. p. 177.—Ceylon.

Der Form *Pr. c. bicolor* in der Färbung ähnlich, aber wesentlich grösser und mit viel kräftigerem Schnabel; dieser misst bei *atrata* etwa 12, bei *bicolor* etwa 10 mm.

Flügelänge: ♂♂ 75,5; 76; 76; 78; 78; 78; 78,5; 79; 80; 80,5; 80,5 mm.

♀♀ 72; 74; 76,5; 77; 77 mm.

*Verbreitung*: Ceylon und die Gebirge des südlichsten Vorderindiens, hier anscheinend auf die höheren Regionen beschränkt.

## 4. *Pratincola caprata rossorum* Hart.

*Pratincola caprata rossorum* Hartert, *J. f. O.* 1910. p. 180.—Transcaspien.

Der Form *Pr. c. bicolor* am nächsten stehend; indessen sind die ♂♂ durch eine viel grössere Ausdehnung der weissen Färbung am Unterkörper, die wenigstens



in der Mitte bis zur Brust reicht, und durch geringeren Glanz des schwarzen Gefieders unterschieden, dass in abgetragenen Kleide braunschwarz erscheint. Zwei der mir vorliegenden ♀♀ sind heller als irgend ein Stück der anderen Formen, oberseits fast sandfarben.

Flügelänge in mm.: ♂♂ 70; 71,5; 72; 72; 74; 74; 75; 76; 76.  
♀♀ 67; 72; 74.

*Verbreitung*: Transkaspien, Persien, Afghanistan, Kaschmir. Als Wintergast in den Ebenen Nordwest-Indiens.

### 5. *Pratincola caprata fruticola* (Horsf.).

*Saricola fruticola* Horsfield, *Trans. Linn. Soc. Lond.*, vol. xiii, 1821, p. 157.—Java.

Die Vergleichung eines grösseren Materials hat die Notwendigkeit der Abtrennung der Sunda-vögel von den Philippinen-vögeln ergeben. Beide Formen sind einander äusserst ähnlich, doch ist *Pr. c. fruticola* durch bedeutendere Grösse ausgezeichnet. Serien von Java bis Wetter stimmen in Färbung und Massen vollkommen überein, während solche von Timor, Kisser und Savu einen niedrigeren Durchschnitt aufweisen. Der Bürzel ist beim ♀ durchweg ockerfarben oder hell rötlich mit Ausnahme eines ♀ von Süd-Java, wo er weisslich und nur schwach ockergelb verwaschen erscheint.

Flügelmasse in mm.:

♂♂ : Java 70; 70; 70; 71; 74; 74—Bali 69,5; 71; 71,5; 71,5—Lombok 70; 72,5; 73; 74—Sumbawa 70; 70,5; 73,5—Flores 69; 71; 72; 74—Alor 70; 71—Wetter 71,5; 72; 73; 74—Timor 66; 68; 69; 69; 70; 70; 70; 71; 71—Kisser 68; 70; 70; 70—Savu 68,5.

♀♀ : Java 68; 69; 74—Bali 68,5; 69; 70—Lombok 69; 71—Sumbawa 68; 69; 69—Flores 71; 72—Lomblen 69,5; 70—Wetter 69; 69—Timor 65; 66; 66; 66; 68; 68; 69; 69; 71—Kisser 67; 67,5; 72—Savu 65; 67.

Die zwei mir vorliegenden ♀♀ ad. von **Babber** haben reinweisse Oberschwanzdecken und sind oberseits dunkler, unterseits grauer als Vögel von den anderen Inseln; al. ♂ 69; ♀♀ 64,5; 66 mm. Ebenso haben die beiden untersuchten ♀♀ von **Sumba** reinweissen Bürzel; al. ♂ 70; ♀♀ 69, 69 mm.

*Verbreitung*: Java, Bali, Lombok, Sumbawa, Flores, Lomblen, Alor, Wetter; Timor, Kisser, Savu [Sumba (?), Babber (?)].

### 6. *Pratincola caprata albonotata* subsp. n.

Diese Form ist von allen übrigen im weiblichen Geschlecht durch die **Färbung der grossen Flügeldeckfedern** ausgezeichnet, die nicht dunkelbraun, sondern **grösstenteils rein weiss** sind mit mehr oder minder breiten schwarzbraunen Säumen; der so am geschlossenen Flügel entstehende weisse Fleck wird durch die Schulterfedern nicht ganz verdeckt. Ebenso sind die Centren der meisten mittleren Flügeldeckfedern weiss.—Dieses Merkmal ist bei fünf der mir vorliegenden ♀♀ vorzüglich ausgeprägt, und fehlt nur bei einem.—Alle Weibchen haben **reinweissen Bürzel**; die übrige Oberseite ist dunkel aschgrau, die Unterseite weissgrau mit dunkelbraunen Federcentren, ohne rostfarbenen Anflug. Unterschwanzdecken weiss. Unterflügeldecken und Axillaren in der Regel weiss mit schwachem gelblichem Anflug, nicht rötlich- oder grau-isabelfarben wie bei den vorhergehenden Formen.

Meyer und Wilesworth (*The Birds of Celebes*, vol. 1. p. 391) beschreiben ein ♀ von Central-Celebes: "Lower rump, upper tail-coverts and under tail-coverts white, tinged with buff; . . . wing coverts blackish, with pale brown edges, **some of the concealed inner greater and middle coverts mostly white.**" Vergl. ferner *l.c.* p. 392: "The Indian female is described by Oates as having the **upper tail-coverts ferruginous**; they are **almost white in Celebes.**"—Partielle Weissfärbung der grossen Flügeldecken findet sich bei vielen ♀♀ von der Sundakette, doch besitzt diese Zeichnung stets weit geringere Ausdehnung und ist auf eine viel kleinere Anzahl von Federn beschränkt.

Typus: ♀ Indrulaman 3. Okt. 1895, A. Everett coll.; im Tring-Museum.

Flügelänge in mm.:

♂♂ Celebes 67; 67; 67; 68; 68; 68; 69; 69; 69—Saleyer 65.

♀♀ Celebes 64; 65,5; 66; 66; 67—Saleyer 63.

Verbreitung: Celebes, Buton, Saleyer.

### 7. *Pratincola caprata aethiops* (Scl.).

*Poecilodryas aethiops* Sclater, *P. Z. S.* 1880. p. 66 pl. vii. f. 1.—Neupommern.

*Pratincola caprata caprata* (♀) und *Pr. c. atrata* (♂), Rothschild und Hartert, *Nor. Zool.* 1903, p. 468.

*Pratincola caprata aethiops*, Rothschild und Hartert, *Nor. Zool.* 1907, p. 467 (Hier sind versehentlich zwei ♀♀ von Ougarra als ♂♂ juv. aufgeführt).

Der Celebes-Form am nächsten stehend; das ♀ ebenfalls mit weissen oder sehr fahl ockergelb verwaschenen Oberschwanzdecken und weissen Unterschwanzdecken, aber ohne Weiss an den grossen Flügeldeckfedern. In der Färbung der Ober- und Unterseite stimmen die ♀♀ beider Formen auch im übrigen mit einander überein.

Flügelänge in mm.:

♂♂ 75; 77; 77; 78; 78; ein aberrant kleines ♂ aus Herbertshöhe im Dresdner Museum: 69.

♀♀ 73; 74; 74.

Verbreitung: Gebirge Britisch Neu-Guineas und Neu-Pommern.

## VII. *Phylloscopus trivirgatus parvirostris* subsp. n.

*Cryptolopha trivirgata*, Sharpe *P. Z. S.* 1887. p. 435.—Perak; id., *P. Z. S.* 1888. p. 271.—Perak; Hartert, *Nor. Zool.* 1902. p. 553.—G. Tahan; Grant, *Journ. Fed. Mal. Stat. Mus.* vol. iii. 1908. p. 36.—G. Tahan; Robinson *J. J. M. St. Mus.* vol. ii. 1909. p. 190; id., *Birds Mal. Pen.* 1910. p. 13.

Von *Ph. tr. trivirgatus* Strickl. (Java, Bali, Lombok, Sumbawa) durch viel kürzeren und an der Basis schmälere Schnabel unterschieden, anscheinend auch durch etwas geringere Flügelänge, indem das grösste der vier mir vorliegenden Exemplare eine solche von 56 mm. anweist, während viele Sunda-vögel 55 bis 59 mm. erreichen.

Verbreitung: Gebirge der malayischen Halbinsel oberhalb 4000 f.—Sumatra-vögel (cf. Salvadori *Ann. Mus. Civ. Gen.* vol. xiv. 1879, p. 204) habe ich nicht untersucht, doch sind sie voraussichtlich mit der neuen Form ident.

Typus: ♂ Gunung Tahan (Pahang), 5200 f, 13. Juli 1911; im Tring-Museum.

## VIII. Revision einiger Muscicapiden-Gattungen.

Siphia—Erythrosterna—Muscicapula—Dendrobiastes—Erythromyias—  
Digenea—Anthipes—Cyornis—Ochromela.

Die generische Einordnung der hier besprochenen Muscicapiden gehört zu den schwierigsten Kapiteln der ornithologischen Systematik, und fast jeder, der sich bisher damit beschäftigte, gelangte zu neuen Ergebnissen. Wir begegnen hier einer starken Divergenz in plastischen Merkmalen, Färbung und Zeichnung selbst bei offenbar nahen Verwandten, und systematische Merkmale, wie die Gestalt des Schnabels oder allgemeine Färbungscharaktere, die anderswo zur Erkennung genetischer Beziehungen von Nutzen sein können, führen hier, wenn wir unsere Schlüsse nur auf die Untersuchung eines oder weniger dieser Kennzeichen basieren, leicht sehr in die Irre. Es müssen hier Gruppen von Merkmalen zur Charakterisierung der Gattungen zusammenwirken, und es ist schwierig, diese Charaktere zu einem brauchbaren Schlüssel zu ordnen; Anordnungen, die wie die Sharpe'sche im *Cat. B.* vol. iv. 1879, pp. 111–120 im Wesentlichen nur die Form des Schnabels und die Flügelänge als Grundlage haben, müssen leicht zur Trennung verwandter Gattungen und zur Zusammenstellung heterogenster Formen führen, wie dies im *Cat. of Birds* auch tatsächlich geschehen ist, wo z. B. *Erythromyias* und *Muscicapula* 250 Seiten weit von den ihnen ganz nahe verwandten Gattungen *Siphia* und *Digenea* getrennt und dazwischen ganz fernstehende Formen eingeschoben werden.

Die vielfachen offenkundigen Missgriffe bei diesem ersten immerhin sehr verdienstlichen Versuche Sharpe's, eine naturgemässe Einteilung der gesammten Familie zu schaffen, veranlassten Oates in *The Birds of British India*, vol. ii. (1890) eine neue Anordnung der indischen Formen vorzunehmen und die Gattungen neu zu charakterisieren, und seine Arbeit bezeichnet hierin einen wesentlichen Fortschritt. In Sharpe's *Handlist*, vol. iii. fand das Oatessche Werk volle Berücksichtigung; auch enthält die *Handlist* eine Anzahl anderer wesentlicher Besserungen gegenüber dem *Cat. of Birds*. Im gleichen Jahr (1901) erschien ein systematischer Versuch von Dr. Finsch in *Not. Leyd. Mus.* vol. xxiii. pp. 33–52, in dem die Gattungen *Nitidula—Poliomyias—Erythrosterna—Siphia—Muscicapula—Digenea—Rhinomyias—Cyornis—Schwaneria* einer neuen Untersuchung unterzogen werden. Die Ergebnisse dieser Arbeit führen in vieler Beziehung von der gleichzeitigen Sharpe'schen Anordnung ab; diese Abweichungen bedeuten indessen einen neuen bedeutenden Fortschritt, insbesondere die Charakterisierung der Gattungen *Muscicapula* und *Digenea*.—Hartert geht meiner Ansicht nach zu weit, wenn er (*Vögel d. pal. Fauna*, vol. i. p. 473) zur Begründung seiner Sammelgattung *Muscicapa* bemerkt: "Wie wenig haltbar viele der bisher angenommenen Genera sind, wird am besten dadurch bewiesen, dass jeder Autor die Gattungen anders begrenzt, vermindert oder vermehrt. Zwischen geringen Unterschieden in der Schnabellänge, Schnabelbreite und -höhe, der Länge und Anzahl der Barthorsten, Schwanzlänge u.s.w. finden meist eklatante Übergänge statt, die Färbung kann ebenfalls nicht als Gattungsmerkmal dienen. Infolgedessen sind wir genötigt, die Gattungen *Hemichelidon*, *Alseonax*, *Hedymela*, *Siphia*, *Cyornis*, *Digenea*, *Poliomyias*, *Zanthopygia*, *Cyanoptila* und mehrere tropische Gattungen unter dem Namen *Muscicapa* zusammenzufassen."

Drückt nicht vielleicht eine derartige Zusammenfassung eine Verkennung der

praktischen Bedeutung der Genera aus, die doch nichts anderes sind als ein systematisches Hilfsmittel zur Bezeichnung engerer Verwandtschaftsverhältnisse der Arten? Und sollte nicht ein derartiges Sammelgenus, weil es die erwünschte Übersicht über nahe zusammengehörige Spezies nicht gewährt, als unpraktisch zu verwerfen sein? Denn die Übergänge zwischen den durch Hartert zusammengefassten Gattungen sind durchaus nicht immer so eklatant, wie man nach seinen Ausführungen annehmen könnte, und es lassen sich für eine Anzahl dieser Genera Merkmale präzisieren, die mehr sind als äusserliche systematische Hilfsmittel und vielleicht die Bedeutung phylogenetischer Charaktere haben.

Mehr als dies bisher der Fall gewesen ist, verdienen biologische Merkmale bei der Klassifizierung der hier besprochenen Arten Berücksichtigung. Denn die letzteren weichen, wie ich mich selbst durch die Beobachtung einiger hierher gehöriger Formen überzeugen konnte, in ihrer Lebensweise zum Teil sehr beträchtlich von einander ab, indem beispielsweise einige nach "typischer" *Muscicapidenart* in den Kronen der Bäume leben und im Fluge Insekten fangen, sowie ihre Nester in den Kronen höherer Bäume oder in Höhlen anlegen, während andere sich beständig dicht über dem Boden anhalten und Erdbrüter sind. Ich werde daher im folgenden das wesentlichste zusammenstellen, was bisher über die Lebens- und Nistweise der Arten bekannt geworden ist. Natürlich bin ich nicht der Meinung, dass man ein System nach biologischen Merkmalen aufbauen darf; aber jedenfalls kann die Lebensweise gerade bei weniger gut untersuchten Formen einen Fingerzeig für die Systematik gewähren.

Für ein wichtiges und exactes systematisches Merkmal in diesen Gattungen halte ich das Verhältnis der Handschwingen zu einander; es zeigt sich, dass dieses Verhältnis bei offensichtlich nahe verwandten Formen stets das gleiche ist, während, wie ich bereits eingangs erwähnte, Färbung und Schnabelform stark variieren. Schon Finsch hat seine Anordnung zum Teil auf die Schwingenformel basiert.

In der folgenden Übersicht der Gattungen sind die Hand-Schwingen ihrer relativen Länge nach geordnet (bei geschlossenem Flügel gemessen):

3 = 4 = 5; 6 = 2; 7	. . . . .	<i>Erythrosterna.</i>
3 = 4 = 5; 6; 2 = 7	. . . . .	<i>Muscicapula.</i>
4 = 5; 6 = 3; 7; 2 = 8	. . . . .	<i>Siphia</i> und <i>Cyornis.</i>
4 = 5 = 6; 3; 7; 2 = 8	. . . . .	<i>Dendrobiastes</i> und <i>Digenea.</i>
4 = 5 = 6; 3 = 7; 8; 2 = 9	. . . . .	<i>Erythromyias.</i>
4 = 5 = 6; 7; 3; 8; 9; 2 = 10	. . . . .	<i>Anthipes.</i>
5; 4 = 6; 3 = 7; 8; 9; 10; 2	. . . . .	<i>Ochromela.</i>

#### Zur Synonymie:

1. Sharpe, *Cat. B.* vol. iv. 1879; citiert als 1.
2. Oates, *Birds of British India*, 1890; citiert als 2.
3. Sharpe, *Handlist of Birds*, vol. iii. 1901; citiert als 3.
4. Finsch, "Zur Catalogisierung der ornithologischen Abteilung: Muscicapidae," *Notes Leyd. Mus.* vol. xxiii. 1901; citiert als 4.

#### i. *Siphia* (Hodgson 1837 für *S. strophilata*):

1. *Siphia* pt.
2. *Siphia* pt.
3. *Siphia* pt.
4. *Siphia*.

Geschlechtsdimorphismus sehr gering. Einzige Art: *Siphia strophciata* Hodgs.  
—Himalaya, Assam, Manipur, Burma, West-China.

In der Lebensweise scheint diese Art an *Pratincola* zu erinnern. "It may often be seen on the roadside, seated on a fallen tree, frequently alighting on the ground to pick up an insect, and occasionally makes a dart at one in the air, returning after each sally to its perch" (Jerdon, *Birds of India*, vol. i. 1877, p. 479). Nistweise vergl. Baker, *Ibis* 1906 p. 270.

ii. **Erythrosterna** (Bonaparte 1838 für *M. parva*).

1. *Muscicapula* pt. (a. b. c.); *Poliomyias* (d. e.).
2. *Siphia* pt. (a. b. c.); *Cyornis* pt. (d. e.).
3. *Siphia* pt. (a. b. c.); *Poliomyias* (d. e.).
4. *Erythrosterna* (a. b.); *Poliomyias* (d. e.).
  - a. *E. parva parva* (Bechst.).
  - b. *E. parva albicilla* (Pall.).
  - c. *E. hyperythra* (Cab.).
  - d. *E. muginaki* (Temm.).
  - e. *E. hodgsoni* (Verr.).

Geschlechter dimorph. ♂ stets mit lebhaft rostbrauner Brust und weisser Basis der äusseren Steuerfedern. Flüzellänge 60–75 mm. Schnabel flach, aber meist etwas schlanker als bei *Muscicapula*.

Die Nistweise ist nur von der paläarktischen Art *E. parva* bekannt. Das Nest steht in Baumhöhlen, auch in der Gabel starker Zweige und enthält 5–7 Eier. *E. parva* ist ein guter Sänger; dasselbe berichtet Hume (*Nest and Eggs of Indian Birds*, ed. ii. vol. ii. 1889, p. 2) von der in Kaschmir lebenden Art *hyperythra*: "The song is sweet, loud and robin-like."

iii. **Muscicapula** (Blyth 1843 für *M. sapphira*).

1. *Muscicapula* pt. (a. c. d. e.).
2. *Cyornis* pt. (a. c. d. e.).
3. *Muscicapula* pt. (a. b. c. d. e.).
4. *Muscicapula* (a. b. c. d. e.).
  - a. *M. melanoleuca melanoleuca* Blyth.
  - b. *M. melanoleuca westermanni* Sharpe.
  - c. *M. superciliaris* (Jerd.).
  - d. *M. astigma* (Hodgs.).
  - e. *M. sapphira* Blyth.

Die Gattung ist ausser durch die Schwingenformel durch den flachen und breiten Schnabel gut charakterisiert. Geschlechter stark dimorph. Flüzellänge etwa 54–65 mm.

Ich hatte Gelegenheit, die Form *M. melanoleuca westermanni* häufig im Gebirge von Perak, Bali und Ceram zu beobachten. Sie findet sich im lichten Gebirgsurwald oberhalb 3000 f. und bevorzugt als Sitzplatz die freistehenden Äste grosser Bäume, von wo aus sie ihre Beute im Fluge erhascht. In Ceram traf ich diesen hübschen Fliegenfänger häufig zwischen den Blütenbüscheln einer mittelhohen Baumart versteckt, die zahlreiche Insekten anlockten und ihm so den Nahrungserwerb erleichterten. Der Vogel ist wenig lebhaft, und hält sich—wie man dies auch bei unserer europäischen *Hedymela hypoleuca* beobachten kann—oft stundenlang auf demselben Baum auf, nur ab und zu zum Insektenfang in die Luft hinausfliegend. Ins niedere Gebüsch kommt er sehr selten, und nur dort, wo es

ihm an höheren Ruhepunkten fehlt. Einen Gesang habe ich nie vernommen; doch spricht Whitehead in *Ibis*, 1899, p. 105, von "his pretty song." Der Lockruf ist ein rauhes *zrr*, ähnlich demjenigen von *Muscicapula striata*. Whitehead beschreibt (in *The Exploration of Kina Balu*, 1893, p. 211) ein Nest folgendermassen: "The nest was placed in a creeper in the big forest, at about 40 feet from the ground; it was quite a small pile of moss, deep, and lined with fine white roots, a very pretty bit of work." Vergl. ferner Stuart Baker, *l.c.* p. 272.

Von *M. superciliaris*, sagt Oates in *Birds of British India*, vol. ii. 1890, p. 18, dass sie 5 Eier in ein napfförmiges, in einer Baumhöhle oder einer Mauer befindliches Moosnest legt. Über *M. saphira* cf. Stuart-Baker *Ibis* 1906, p. 273.

iv. **Dendrobiastes** für *D. basilanica*, Sharpe, *Trans. Linn. Soc. Lond.* 1877, p. 332.

1. *Muscicapula* pt. (a); *Siphia* pt. (b).
2. *Cyornis* pt. (a).
3. *Muscicapula* pt. (a, d, e, f, g); *Dammeria* (c); *Cyornis* pt. (b).
4. *Digenea* pt. (a); *Cyornis* pt. (b).
  - a. *D. hyperythra* (Blyth) und subspecies.
  - b. *D. rufigula* (Wall.).
  - c. *D. henrici* (Hart.).
  - d. *D. luzoniensis* (Grant).
  - e. *D. nigrorum* (Whitehead).
  - f. *D. basilanica* Sharpe.
  - g. *D. samarensis* (Bourne et Wore.).
  - h. *D. montigena* (Mearns).

Steuerfedern stets einfarbig, mit Ausnahme des ♂ von *D. hyperythra*, bei dem die Basis der äusseren Steuerfedern weiss ist. Geschlechter dimorph. Beim ♂ stets ein weisser Superciliarstreif vorhanden, der zuweilen nur sehr schwach ausgebildet ist (bei *D. rufigula* sind nur noch die Centren der Federn über dem hinteren Augenwinkel weiss; bei *D. basilanica* ist nur der hintere Teil des Streifens erhalten, zwei weisse Flecken in der Nackengegend bildend); ♀ mit fahlbräunlichem Superciliarstreif, der meist nicht soweit nach hinten reicht wie beim ♂, bei den ♀♀ von *D. samarensis* und *D. rufigula* sogar ganz fehlt; diese sind als Übergangsformen zur Gattung *Erythromyias* aufzufassen, von welcher *Dendrobiastes* nicht leicht zu trennen ist.—Leuchtend blass Federn (die charakteristisch für *Cyornis* sind) fehlen. Schnabel gestreckter als bei *Muscicapula* und mit höherem First, aber schwächer als bei *Erythromyias*. Flügellänge etwa 55—70 mm.

In *Notes Leyl. Mus.* vol. xxii, pp. 261—262, vereinigt Fusch das Hartertsche Genus *Dammeria* (cf. *Nor. Zool.* 1900, p. 14) mit *Poecilodryas*. Diese Placierung erscheint indessen als verfehlt, und Hartert bemerkt hierzu in *Nor. Zool.* vol. xiii. 1906 p. 297, mit vollem Recht: "I readily believe that it is desirable to diminish the genera of *Muscicapidae* very considerably; but if this is done, and *Dammeria* should be suppressed, it would far better be united with *Muscicapula* than with *Poecilodryas*, a genus which inhabits Australia and the Papuan Islands, but not the South-West Islands." Ich betrachte "*Dammeria*" *henrici* als *Dendrobiastes hyperythra* sehr nahe stehend; die ♀♀ beider Formen ähneln einander in hohem Masse. Es scheint mir überhaupt, dass in diesen Gattungen die ♀♀, als das in der Färbung conservativere Element, für die Klassificierung der Arten mehr Berücksichtigung verdienen als die oft sehr specialisierten ♂♂.

*Dendrobiastes hyperythra* traf ich vereinzelt in Bali und sehr häufig in den Gebirgen von Ceram und Buru an. In ihrer Lebensweise unterscheidet sich diese Art sehr wesentlich von *Muscicapula melanoleuca*, mit der sie in Sharpes *Handlist* in einer Gattung vereinigt wird. Als Aufenthalt dient ihr das düstere Unterholz der dichten Gebirgswälder, und sie bevorzugt hier vor allem Farndickichte, stets dicht über dem Boden auf kleinen Stengelchen sitzend. Kaum jemal sucht sie ihren Ruhepunkt über Mannshöhe, und pflegt auch im Abfliegen sich dicht über dem Boden zu halten. Die Insekten, die ihr zur Nahrung dienen, pickt sie vielfach vom Boden auf. Dieser Muscicapide ist wenig sesshaft, und pflegt in kleinen lockeren Verbänden zu viert oder fünft, auch wohl familienweise oder gemeinsam mit anderen Kleinvögeln, das Unterholz des Urwaldes zu durchstreifen, rasch und lautlos von Pflanze zu Pflanze fliegend, nach dem Aufsitzen einige Male knicksend und mit dem Schwanz zitternd, um nach einigen Minuten, während welcher der Vogel unbeweglich verharrte und nur von Zeit zu Zeit seinen scharfen Lockruf *teck teck* (der an denjenigen des Rotkehlchens erinnert) hören liess, wieder abzuffliegen. Am lebhaftesten ist diese Art während der Dämmerung. Einen Gesang habe ich nie vernommen.

Über die Nistweise von *D. hyperythra* sagt Whitehead (*Expl. Kina Batu*, p. 211): "The nest is a neat little moss-lined cup; it is generally placed, with considerable talent for concealment, right in the loose moss which grows along the trees in profusion . . . the entrance being merely a small hole in the side of the overhanging moss. . . . I found a nest with two white (?) eggs." Nach Hodgson (cf. Oates, *l.c.* p. 15) findet man das Nest unter Baumwurzeln oder am Boden nahe dem Stamm.

Die gleichen Gewohnheiten haben die anderen Arten dieser Gattung, über die bisher Biologisches bekannt geworden ist. Von *D. basilanica* berichten Bourns und Worcester (in McGregor, *Manual of Philipp. Birds*, vol. ii. p. 445): "The Basilan flycatcher is found on the ground in the forest"; und von *D. samarvensis* sagt Whitehead (*Ibis*, 1899, p. 105): "This species frequents thick dark forests, spending its time in the tangled undergrowth, and it is therefore seldom seen." Über die Nistweise dieser Art cf. Grant und Whitehead, *Ibis* 1898 p. 237: "The nest, a remarkably frail structure, was made of roots and lined with broad leaves. It was well concealed, being placed close to the ground in a heap of forest-drift near some rocks."—Von *D. luzoniensis* endlich sagt Whitehead (*Ibis* 1899 p. 105): "This species frequented the thick tangled undergrowth near the ground, and was most difficult to obtain. This species becomes much more active towards sunset, when it often utters a peculiar hissing note, written best 'pust.'"

v. **Erythromyias** (Sharpe 1879).

1. *Erythromyias* (a. b. f.).
3. *Erythromyias* (a. b. c. d. f.); *Cyornis* pt. (g. h.).
4. *Digenea* pt. (a. b. c. d. f. g.); *Cyornis* pt. (h.).
  - a. *E. dumetoria dumetoria* (Wall.).
  - b. *E. dumetoria mülleri* (Blyth).
  - c. *E. dumetoria riedeli* Büttikofer.
  - d. *E. buruensis buruensis* Hart.
  - e. *E. buruensis ceramensis* Grant.
  - f. *E. pyrrhonota* (Müll. et Schleg.).
  - g. *E. erythaca* (Sharpe).
  - h. *E. bonthaina* (Hart.).

Geschlechter entweder nahezu gleich gefärbt, oberseits fast einfarbig brännlich oder dunkel braunoliv : oder aber  $\pm$  stark dimorph. Schnabel kräftig, mit einem an der Basis höhen First, und im allgemeinen stärker und länger als bei *Dendrobiastes*. Steuerfedern einfarbig schwarz oder dunkeloliv bis rotbraun, nur bei den  $\delta\delta$  von *E. dumetoria* und ihren Unterarten mit weisser Basis der äusseren Steuerfedern; diese Formen besitzen auch einen weissen Superciliarstreif, der den übrigen Arten fehlt. Ausgesprochen blaue Farbtöne treten bei dieser Gattung nicht auf. Kehle und Brust mehr oder weniger rostfarben, nur bei *E. pyrhoneota* weiss mit schwarzem Brustband.

Im Gebirge Cerams und Buru zwischen 2000 und 3000 f. fand ich *Erythromyias buruensis* vor; sie war besonders auf Buru an geeigneten Localitäten sehr häufig, in der Lebensweise stark an *Dendrobiastes hyperythra* erinnernd; doch bewohnen beide Arten nicht das gleiche Gebiet, indem die 3000 f.-Linie, welche etwa die untere Grenze für die vertikale Verbreitung der letzteren darstellt, für *Erythromyias* die obere bedeutet. Am Tage hält sie sich meist still und verborgen zwischen Felsblöcken oder in dichtem Gebüsch, das sich an natürlichen Lichtungen des Urwaldes gebildet hat, und wird erst gegen Abend munter, dann unter beständigen scharfen Rufen ruhelos am Waldboden hinfliegend und sich zänkisch verfolgend. Oft war ich abends über die grosse Anzahl dieser Vögel an einer Localität erstaunt, an der ich bei Tage kaum einen einzigen zu sehen bekommen hatte; allenthalben vernahm man dann ihre Stimmen aus dem dunkelnden Walde. Einen Gesang habe ich nie gehört. Es gelang mir, Ende Januar auf Buru ein Nest zu finden mit zwei auf weissem Grunde zerstreut und unregelmässig rotbraun punktierten Eiern. Die Localität war ein lichter Gebirgsurwald in 900 m. Höhe mit wenig Unterholz, somit stark an einen europäischen Buchenwald erinnernd, und der Boden war wie bei diesem mit braunem trockenem Laube bedeckt. Hier stand das Nest in der Krone eines jungen Bäumchens, das zwischen den alten Stämmen aufschoss, in etwa 4 m. Höhe. Es besass eine tief napfförmige Gestalt und war sehr sorgfältig aus Laub und Wurzeln gebaut. Das brütende ♀ wurde erlegt.

Von *E. erythraea* berichten Bourns und Worcester (in McGregor, *l.c.*, p. 441), "Found in thickets near the jungle and always near the ground."

vi. **Digena** (Hodgson 1845 für *D. leucomelanura*).

1. *Digena* pt.

2. *Cyornis* pt.

3. *Digena*.

4. *Digena* pt.

a. *D. leucomelanura leucomelanura* Hodg.

b. *D. leucomelanura cerviniventris* Sharpe.

Geschlechter dimorph. Federstruktur und Schnabelform wie bei *Dendrobiastes*. Dem  $\delta$  fehlt der weisse, für die letztere Gattung charakteristische weisse Superciliarstreif, dem hier ein hellgranblauer, sich auch über die Vorderstirn hinziehender entspricht.  $\delta$  mit weisser Basis der äusseren Steuerfedern.

"The nest is a massive little cup of moss, fur and wool, placed in a hollow at the side of the trunk of a tree" (Oates, *l.c.* p. 17). Ein Gelege bestand aus 4 Eiern.

vii. **Anthipes** (Blyth 1847).

Über die Arten dieser durch Färbungsmerkmale gut charakterisierten Gattung cf. Sharpe, *Handlist* vol. iii, pp. 218-219. Das Genus steht den 3 vorhergehenden sehr nahe.



Nach Hume (*l.c.* p. 13) legt *A. moniliger* sein Nest in einer kleinen Grube mitten im Gras an.

viii. **Cyornis** (Blyth 1843 für *C. ruberuloides*).

Hierzu rechne ich alle in Sharpe, *Handlist* vol. iii. pp. 214-220 aufgeführten Arten von *Cyornis*, *Niltica* und *Schwaneri* mit Ausnahme von :

*Cyornis rufigula* = *Dendrobiastes rufigula*.

*Cyornis bonthaina* = *Erythromyias bonthaina*.

*Cyornis erythaca* = *Erythromyias erythaca*.

Die normale Flügelformel lautet : 4. u. 5. Schwinge gleich lang und am längsten, 3. = 6., 2. = 8. Doch variiert in seltenen Fällen die relative Länge der 3. und 6. etwas und ihr Verhältnis zu einander, indem dann die 3. bald etwas kürzer, bald etwas länger ist als die 6. ; indessen erreicht die 6. niemals die Länge der 5., die 3. niemals die der 4.

Geschlechter stets auffällig dimorph, oft in sehr hohem Masse. ♂ auf der ganzen Oberseite stets ausgesprochen blau, dieses Blau stets am hellsten an der Stirn, meist ist auch ein gleichgefärbter Superciliarstreif vorhanden. Zügel stets tief schwarz. Weissler Augenbrauenstreif fehlt stets. Auf der Unterseite sind bläuliche (oft schwarzblaue oder blaugraue) oder rotbraune Töne vorherrschend.

♀ entweder dem ♂ ähnlich, aber mit gelblich braunem oder weisslichem statt schwarzem Zügel ; oder die Oberseite ist von derjenigen des ♂ stark verschieden.

Die Abtrennung einiger hierher gehöriger Formen als *Niltara* ist gänzlich unhaltbar. "*Niltica*" *grandis* z. B. steht *Cyornis concreta* weit näher als letztere der *Cyornis elegans*, mit der sie doch durch eine Anzahl Zwischenformen untrennbar verbunden ist.

Die Schnabelform variiert in diesem Genus sehr stark und kann entgegengesetzte Extreme bei Formen erreichen, die sich zweifellos nahe stehen. Cf. *Cyornis hypocinthus* mit sehr kurzem breitem, *C. kiluensis* mit langem hohem schmalem Schnabel. Einzelne Arten, die ihrem sonstigen Habitus nach echte *Cyornis* sind, nur auf Grund ihrer etwas abweichenden Schnabelform zu Vertretern gesonderter Gattungen zu erheben, wie dies Temminck mit *C. caeruleata* (= ? *rufifrons*) getan, und Finsch in *Notes Leyd. Mus.* vol. xxiii. 1901, pp. 50-52 ausführlich zu begründen versucht hat, halte ich für verfehlt.

Eine ausführliche Beschreibung der Lebensweise von *C. banjamas* gibt Bernstein (*J. J. O.* 1859, pp. 265-266) : "Bewohnt vorzugsweise die höher gelegenen, den Gebirgswaldungen näheren Haine und Dorfgehölze, sowie die Kaffeepflanzungen und die Wälder selbst, obschon er sich weniger im Inneren derselben als vielmehr längs ihrer Ränder anhält. . . . Aufmerksam späht er, still auf einem aussteckenden Baumast sitzend, nach Insekten umher, die er sehr geschickt im Fluge zu fangen weiss und dann, auf seinen eben erst verlassenen Sitzplatz oder einen anderen Ast zurückgekehrt, verspeist. Sein Gesang ist ziemlich einfach. . . . Zwei Nester stunden zwischen den Farn und anderen Parasiten, welche stets in Menge den Stamm der Arengpalme bedecken, das 3. war in einem Astwinkel eines stark bemoosten Baumes angebracht. Die Nester haben eine im Ganzen regelmässig halbkugelförmige Gestalt. Jedes von ihnen enthält 2 Eier."

Von *C. cyanea* (Hume) = *C. concreta* (S. Müll.) habt Oates (*l.c.* p. 14) ausdrücklich hervor : "A forest bird, found constantly on trees, and never descending to the ground." Nach demselben Autor, *l.c.* p. 23, besitzt ein Nest von *C. unicolor* eine napfförmige Gestalt, besteht aus Moos und Farnwurzeln und wurde in der

Nische eines Baumstammes in etwa 10 Fuss Höhe gefunden. *C. rubeculoides* und *tickelli* nisten in Baum- und Felshöchern; ähnliche Gewohnheiten besitzt *C. grandis*: "The nest is placed on the branch of some tree, between three or four slender shoots, at an elevation of a few feet above the ground, or at other times in some hole of a decaying tree or on some ledge of rock" [Hume *l.c.* p. 19].

ix. **Ochromela** (Blyth, 1847, für *O. nigrorufa*).

1. *Siphia* pt.
2. *Ochromela*.
3. *Ochromela*.

Die einzige zu dieser Gattung gehörige Art besitzt eine sehr eigentümliche Nistweise: "The nest is placed in thick clumps. The bird is fond of building in the cluster of new shoots that rise from the stump of a tree that has been felled. Usually the nests are at heights of from 1 to 3 feet above the ground; but I have found one placed actually on the ground. The nest is globular, higher than it is wide, with a small entrance-hole on one side. . . . The eggs are always two in number" [Hume *l.c.* p. 14].

## IX. Die Formen von *Dendrobiastes hyperythra* (Blyth).

[*Muscicapula hyperythra* auct.]

### Übersicht.

♀

1. Oberseite hell bräunlich oliv . . . . *D. hyperythra hyperythra* (Blyth).
2. Oberseite dunkler, grauoliv.
  - a. Kehle und Bauch weisslich, ziemlich unvermittelt durch ein breites Brustband abgegrenzt, das aus fahl rostfarbenen Federn mit dunkel olivgrauen Spitzen besteht . . . *D. hyperythra pallidipectus* (Hart.).
  - b. Kehle und Bauch fahl ockergelb oder röstlich, allmählich in die Färbung des etwas dunkleren Brustbandes übergehend  
*D. hyperythra malayana* (Grant).
  - c. Kehle und Bauch weisslich, durch ein blass orange-farbenes Brustband getrennt; Schnabel sehr kräftig, kleine Oberflügeldecken blaugrau statt oliv wie bei den anderen Formen . . . *D. hyperythra audacis* (Hart.).
3. Oberseite dunkel blaugrau, mit der Färbung der Oberseite des ♂ nahezu übereinstimmend. . . . . *D. hyperythra alifurus* subsp. n.

### *Dendrobiastes hyperythra alifurus* subsp. n.

♂. Allgemeine Färbung mit derjenigen von *hyperythra* und *malayana* übereinstimmend, aber die Aussensäume der Schwingen dunkel blaugrau wie der Rücken statt hellbraun bis bräunlich wie bei diesen Formen; in dem genannten Merkmal stimmt die neue Form mit *D. h. audacis* (Hart.) von Babber überein (cf. *Nor. Zool.* 1906, p. 296), von der sie sich durch dunklere Färbung der Oberseite und durch die geringere Grösse des Schnabels unterscheidet.

Flügelänge: *D. h. audacis* (6 ♂♂): 63—65 mm.

*D. h. alifurus* (7 ♂♂): 62—66 mm.

Füsse blassgrau bis schwarzgrau (am Balg stets dunkel); Schnabel schwarz; Iris dunkelbraun.

♀. Färbung der Oberseite dunkel blaugrau, ähnlich derjenigen des ♂, aber weniger bläulich und sehr gut mit der Oberseite des ♀ von *D. nigrorum* (Whitehead) übereinstimmend. Kopf zuweilen mit schwachem olivfarbenem Schimmer. Steuerfedern oberseits schwarz mit dunkel granuliven oder blaugrauen Aussensäumen. Aussensäume der Schwingen dunkelbraun, wesentlich dunkler und weniger rötlich als bei den ♀♀ von *D. h. hyperythra*, während die ♀♀ von *D. h. pallidipectus* (Hartert; cf. *Nor. Zool.* 1903, p. 52—Batjan) dunkel olivfarbene Säume haben. Färbung der Unterseite ausgesprochen blass rostfarben und oliv verwaschen, an der Brust am dunkelsten, mit der Färbung von *D. h. malayana* übereinstimmend.

Flügelänge (8 ♀♀): 60—63 mm.

Füsse blass grünlich fleischfarben; Iris dunkelbraun; Schnabel schwarz.

Typus: ♀, Gunung Fogha (Buru) 5000 Fuss, 26. ii. 1912, E. Stresemann coll. No. 1076.

Verbreitung: Gebirge von Buru oberhalb 4000 Fuss.

### *Dendrobiastes hyperythra malayana* (Grant).

*Muscicapula malayana* Grant, *Bull. B.O.C.* vol. xix. p. 10 (1906—Pahang).

Das Tring-Museum besitzt 22 ♂♂ und 14 ♀♀ von dieser Form aus Malakka, Borneo, den Sunda-inseln und Celebes, die alle in der Färbung übereinstimmen.

♀. Oberseite dunkel granuliv, um eine kaum merkliche Schattierung heller als das ♀ von *D. h. pallidipectus*, und mit dem ♀ von *D. luzoniensis* (Grant) übereinstimmend. Steuerfedern oberseits schwärzlich mit dunkelbraunen bis bräunlich olivfarbenen Aussensäumen, denen ebenso gefärbte Aussensäume der Schwingen entsprechen. Unterseite wie bei *D. h. alifurans*.

Flügelänge (14 ♀♀): 54—60 mm.

Das ♂ stimmt mit demjenigen von *D. h. hyperythra* überein. Die Füsse sind bei einem ♂ von Bali (coll. E. Stresemann) als hell graubraun bezeichnet; am Balg zeigen sie meist eine hell gelbliche oder dunkel bräunliche Farbe.

Verbreitung: Malakka, Sumatra, Borneo, Java, Bali, Lombok, Sumbawa, Flores, Celebes.

### *Dendrobiastes hyperythra hyperythra* (Blyth).

♀. Oberseite bräunlich oliv. Steuerfedern oberseits bräunlich oder dunkel olivfarben mit helleren Aussensäumen von der gleichen Grundfarbe. Aussensäume der Schwingen hell rötlich braun oder grünlich oliv. Unterseite mit geringem fahl rötlichen Schein besonders in der Brustregion, der durch die schmutzig olivfarbenen Spitzen der Federn grösstenteils verdeckt wird.

Flügelänge (12 ♀♀): 55—59 mm.

Verbreitung: Himalaya; Khasi- und Naga-Berge; Manipur.

Die Stellung der **Formosavogel** ist zweifelhaft. Swinhoe benannte (*Ibis* 1866 p. 394) ein ♂ von dort *Siphia inueca* und gründete seine Beschreibung auf ungenaue Kenntnis indischer Stücke. Der Typus befindet sich jetzt im Tring-Museum; er wie auch ein zweites ♂ von Formosa sind von *D. h. hyperythra* und *malayana* nicht zu unterscheiden. Weibchen scheinen noch nicht gesammelt worden zu sein; sollten sie, was nicht unwahrscheinlich ist, mit denjenigen von *D. h. malayana* übereinstimmen, so muss der Swinhoesche Name für diese Form Platz greifen.

## X. Die Formen von *Cacomantis merulinus* und *Cacomantis sepulcralis*.

### Uebersicht.

(Alterskleid.)

A. Oberkopf und Nacken aschgrau, mehr oder weniger scharf contrastierend mit der Färbung des Rückens; Kinn, Kehle, Kropf und meist auch die Vorderbrust hell aschgrau, übrige Unterseite scharf contrastierend rötlich oder rötlich ockergelb; die äusseren Steuerfedern mit breiten weissen Querbinden an der Innenfahne, die sich gegen den Schaft zu nicht verschmälern . . . . . *C. merulinus*.

1. Die rötlichen Töne der Unterseite sehr blass: rötlich ockerfarben. Flügel 96–111 mm. . . . . *C. m. merulinus*.

2. Die rötlichen Töne der Unterseite viel lebhafter: dunkel rostfarben. Flügel 102–118 mm. . . . . *C. m. querulus*.

B. Oberkopf und Nacken schwarzgrau mit grünmetallischem oder bronzefarbenem Schimmer, von der gleichen Färbung wie der Rücken. Die Innenfahne der äusseren Steuerfedern mit viel schmälerer weisser Bänderung, die gegen den Schaft zu spitzwinklig endet, so dass eine sägeartige Zeichnung entsteht . . . . . *C. sepulcralis*.

1. Graue Färbung fehlt auf der Unterseite entweder ganz, oder ist auf das Kinn beschränkt, bedeckt in selteneren Fällen auch die Kehle;

a. Unterseite leuchtend braunrot, in der Regel an der Brust nicht oder nur spärlich grau verwaschen . . . . . *C. s. cirvenscens*.

β. Unterseite wesentlich blasser, rötlich ockerfarben oder fahl rostbraun . . . . . *C. s. sepulcralis*.

γ. Unterseite dunkel rostbraun mit schmutzig granem Anflug . . . . . *C. s. aeruginosus*.

2. Zwei extreme Färbungsphasen des adulten Vogels: eine, bei der die ganze Unterseite mit Ausnahme der rotbraunen Unterschwanzdecken dunkel aschgrau ist, und eine andere, die vollkommen mit *C. s. sepulcralis* übereinstimmt. Zwischen beiden Extremen alle Übergänge an der gleichen Localität . . . . . *C. s. assimilis*.

3. Unterseite einfarbig dunkelgrau, Unterschwanzdecken dunkelgrau mit dunkelbrauner Bänderung . . . . . *C. s. websteri*.

### *Cacomantis merulinus merulinus* (Scop.).

*Cuculus merulinus* Scopoli, *Delic. Flor. et Faun. Insabr.* ii, p. 89 (1786—Panay; ex Sonnerat).

*Cuculus flavus* Gmelin, *Syst. Nat.* vol. i, p. 421 (1788—Panay; ex Sonnerat).

*Cuculus lanceolatus* S. Müller, *Verh. Nat. Gesch. Land- u. Volkvolk.* 1839–44, p. 178—Java.

*Cacomantis dysonianus* Heine, *J. f. O.* 1863, p. 352 (1863—Borneo, Java, Sumatra).

*Cacomantis merulinus* pt., Shelley, *Cat. B.* vol. xix, 1891, p. 268; Finsch, *Not. Leyd. Mus.* vol. xxii, 1901, p. 89; Sharpe, *Handlist* vol. ii, 1900, p. 159.

Flügelänge in mm. (bei den eigenen Messungen sind regelmässig nur ausgefärbte Exemplare berücksichtigt):

Sumatra: 96, 100; [7 Ex fide Finsch: 97–105].

Java: 100, 106, 110, 111 [15 Ex fide Finsch: 98–109].

Bali: 106.

Borneo: 95; 96; 96; 99; 102,5 [15 Ex fide Finsch: 96–105].

Philippinen: 100, 102, 104, 104, 108, 108, 111 [fide Finsch: 99, 104].

Celebes : 103 [fide Finsch : 100, 103].

*Verbreitung* : Sumatra, Nias,\* Java, Bali, Borneo, Palawan, Sulu-Archipel, Philippinen, Celebes.

### ***Cacomantis merulinus querulus* Heine.**

*Cacomantis querulus* Heine, *J. f. O.* 1863. p. 352—Vorderindien (!), Nepal, Burma.

*Polyphasia rufiventris* Jerdon, *Ibis* 1872. p. 15—wahrscheinlich : Assam, Burma.

*Cacomantis merulinus* pt., Shelley, *l.c.* p. 268 ; Sharpe, *l.c.* p. 159 ; Finsch, *l.c.* p. 89.

*Cacomantis sepulcralis* pt., Finsch, *l.c.* p. 82.

Zu dieser Form gehören alle bisher als *Cacomantis merulinus* aufgeführten Exemplare vom Continent mit Ausnahme Malakkas. *Cacomantis sepulcralis* kommt hier nicht vor ; wenn Finsch alle im Leidener Museum vom Festland befindlichen Stücke zur letzteren Art rechnet, so hat er sich offenbar durch die bedeutendere Grösse und dunklere Unterseite der Form *C. merulinus querulus*, die hierin eine gewisse Convergenz zu *sepulcralis* zeigt, täuschen lassen. Die Färbung von Oberkopf, Nacken und Kropf gepaart mit der charakteristischen Schwanzzeichnung sind indessen stets untrügliche Kennzeichen zur Unterscheidung beider Arten.

Heine charakterisiert *l.c.* diese Form sehr gut, indem er sagt : “ In der Grösse kommt dieselbe schon nahe an *C. sepulcralis* Bp. und *C. borneensis* Bp. [= *C. sepulcralis sepulcralis*] heran, ist aber in der grauen Färbung der Brust und Kehle noch ganz wie *C. dysonomus* NoB. [= *C. merulinus merulinus*] und *C. threnodes* Cab. und Heine gezeichnet, die Oberseite ist fast ebenso glänzend wie bei der letzteren Art, der sie überhanpt in der ganzen Färbung am nächsten kommt.” Flügelänge in mm. :

Tenasserim : (nach Hume & Davison, *Stray Feathers* vol. vi. p. 159), ♂ 102–112, ♀ 109–117.

Burma : 106, 106, 106, 108, 109, 109, 109, 110, 111, 111, 111, 111, 112, 112, 113, 113, 115, 115, 115, 115, 115, 117, 118.

[Siam fide Finsch : 106.]

Süd-China : 108, 110, 110, 110, 111, 111, 114, 114 [3 Ex fide Finsch : 105–115].

Hainan : 109, 113, 116.

*Verbreitung* : Tenasserim, Burma, Assam, Ostbengalen, östlicher Himalaya, Siam, Südchina, Hainan. Tenasserimvögel scheinen im Durchschnitt etwas kleiner zu sein als solche von Burma und sich in den Massen den Malakkavögeln zu nähern.

### ***Cacomantis merulinus merulinus* $\geq$ *querulus*.**

Stücke von Malakka sind in der Färbung überaus variabel ; vielfach gleichen sie in den sehr bleichen röstlichen Tönen der Unterseite vollkommen der Sundaform, oft auch sind sie unterseits sehr lebhaft rostbraun gefärbt, wie typische *querulus*, in der Grösse dagegen stehen sie hinter der letzteren Form stets zurück und stimmen mit *C. m. merulinus* überein. Wir erblicken in ihnen eine Übergangsform ; auf ein Malakkastück bezieht sich der Name *Cacomantis threnodes* Cabanis und Heine (*Mus. Hein.* vol. iv. 1862, p. 19) ; ich ziehe es jedoch vor, diesen Namen wegen der geringen Constanz der Form fallen zu lassen und dieselbe durch die obige Formel zu bezeichnen.

Flügelänge in mm. :

Malakka : 99 ; 100 ; 100 ; 101 ; 102 ; 102,5 ; 103 ; 103.

\* Die Niasvögel wurden inzwischen von Oberholser, *l.c.* p. 5, als *C. m. subpallidus* abgetrennt

Insel Salanga: 100, 106, 106; [nach A. Müller, *J.f. O.* 1882, p. 405: 16 Ex. 100–107, Mittel 103,5; 1 Ex. 113].

*Verbreitung*: Malakka; die Salangavögel scheinen sich in der Grösse der Form *C. m. querculus* stärker zu nähern und können durch die Formel bezeichnet werden: *C. m. merulinus* < *querculus*.

### ***Cacomantis sepulcralis sepulcralis* (S. Müll.).**

*Cuculus sepulcralis* S. Muller, *Verh. Nat. Gesch. Land- u. Volkenk.* (1839–44), p. 177 nota—Java und Sumatra.

? *Cacomantis borneensis* Bonaparte, *Consp. Vol. Zyg.* 1854, p. 6—nomen nudum!

*Cacomantis merulinus* pt., Shelley, *l.c.* p. 268; Sharpe, *l.c.* p. 159.

*Cacomantis sepulcralis* pt., Finsch, *l.c.* p. 82.

Die Intensität der rostbraunen Färbung ist bei dieser Form an gleicher Localität ziemlich schwankend; sie gruppiert sich indessen, wie die Prüfung grösserer Serien ergibt, um ein fahles Rostbraun. Iris rotbraun oder hellbraun.

Flügelänge in mm.:

[Sumatra fide Finsch: 114, 116.]

Java: 111, 113, 114, 117, 118 [fide Finsch 25 Ex.: 111–123].

Bali: 109, 115, 119.

Lombok: 113, 115.

Sumbawa: 113, 118.

Sumba: 113, 114, 117, 118, 120.

Philippinen: 112, 114, 115, 116, 117.

[Simalur fide Richmond, *Proc. Un. St. Nat. Mus.* 1903, p. 496: 113, 115.]

*Verbreitung*: Sumatra, Java, Bali, Lombok, Sumbawa, Sumba, Philippinen, Sulu-Archipel, Borneo?, Simalur.

### ***Cacomantis sepulcralis virescens* (Brüggem.).**

*Cuculus virescens* Brüggemann, *Abh. naturf. Verein Bremen* vol. v. p. 59 (1876—Celebes).

*Cacomantis virescens* pt., Shelley, *l.c.* p. 274.

*Cacomantis virescens* Sharpe, *l.c.* p. 160.

*Cacomantis sepulcralis* pt., Finsch, *l.c.* p. 82.

Sehr typische Stücke dieser Form haben blaugrün glänzende Mantelfedern, während dieselben bei *C. s. sepulcralis* stets  $\pm$  ausgesprochen oliv glänzen. Die intensiv braunrote (dunkel zimmetfarbene) Tönung der Unterseite ist relativ constant. Die Bänderung an der Innenfahne der äusseren Steuerfedern ist meist, aber nicht durchgängig, schwächer ausgebildet als bei den anderen Formen.

Flügelmasse in mm:

Celebes: 104, 104, 107, 108, 109, 110, 110, 111, 113, 115, 116, 116, 117 [fide Finsch 9 Ex.: 108–120; fide A. B. Meyer: 107, 108, 109, 111, 111, 111, 112, 114, 115, 118, 122].

Banggai: 108 [fide A. B. Meyer: 106].

Sula: 112 [fide Finsch 4 Ex.: 110–113].

Tawi-tawi: 112.

Binnangko: 110.

*Verbreitung*: Celebes, Peling, Banggai, Sula-Inseln, Tawi-tawi, Binnangko.

**Cacomantis sepulcralis aeruginosus** Salvad.

*Cacomantis aeruginosus* Salvadori, *Ann. Mus. Civ. Gen.* vol. xiii. p. 458 (1878—Buru, Ambon, Ceram); Sharpe, *l.c.* p. 160.

*Cacomantis virescens* pt., Shelley, *l.c.* p. 274.

*Cacomantis sepulcralis* pt., Finsch, *l.c.* p. 82.

Eine in der Färbung der Unterseite sehr constante Form, deren Characteristica Salvadori *l.c.* und Meyer u. Wiglesworth in: *The Birds of Celebes*, vol. i. 1898, p. 108 treffend hervorheben; dass Finsch sie trotzdem wieder mit der typischen und der celebensischen Form vereinigt, ist nicht recht verständlich.

Flügelänge in mm :

Buru : 112, 113, 114, 115, 116, 117, 117, 118, 118.

[Ambon fide Finsch 4 Ex. : 110—127.]

Ceram : 114, 118 [fide Finsch : 115, 121].

Verbreitung : Buru, Ambon, Ceram.

**Cacomantis sepulcralis assimilis** (Gray).

*Cuculus assimilis* Gray, *P.Z.S.* 1858, pp. 184—185—Aru.

*Cacomantis infansatus* Cabanis u. Heine, *Mus. Hein.* vol. iv. p. 23 (1862—Misol).

*Cacomantis assimilis* Salvadori, *Orn. del. Pap.* vol. i. 1880, p. 337.

*Cacomantis insperatus* (nec Gould !), Shelley, *l.c.* p. 273 ; Sharpe, *l.c.* p. 160.

*Cacomantis dimetorum* (nec Gould !), Finsch, *l.c.* p. 85.

*Cacomantis assimilis assimilis* Rothschild u. Hartert, *Nor. Zool.* vol. xiv. 1907, p. 434.

Verbreitung : Neuguinea, Neupommern, Neumecklenburg, D'Entrecasteaux-Inseln, Salomon-Inseln, Aru- und Kei-Inseln, Misol, Salawatti, Gebe, Halmahera, Batjan, Obi, Ceramlaut, Goram.

**Cacomantis sepulcralis websteri** Hart.

*Cacomantis websteri* Hartert, in Webster's *Through New Guinea*. 1899, p. 370—Neu Hannover ; Sharpe, *l.c.* p. 160.

*Cacomantis assimilis websteri* Rothschild u. Hartert, *l.c.* p. 434.

Verbreitung : Neu-Hannover.

Ueber die beiden letztgenannten Formen cf. Rothschild und Hartert, *l.c.* pp. 434—435.

ANMERKUNG. *Cacomantis passerinus* (Vahl), welcher Vorderindien und Ceylon bewohnt, wird auch in den Listen der Java- und Sumatra-vögel aufgeführt. (Cf. Finsch, *Not. Leyd. Mus.* vol. xxii. 1900, p. 92 ; Vorderman, *Nat. Tijdschr. Ned. Ind.* vol. 60, 1901, p. 66.) Diese Angabe gründet sich auf 3 Exemplare, von denen ich zwei im British Museum befindliche selbst prüfte. Eines davon, ein ausgefärbtes ♂, ist ein Händlerbalg ohne Originaletikett und stammt aus dem Museum A. Forbes, wurde aber keineswegs "durch Forbes auf Java nachgewiesen," wie Finsch *l.c.* sich ausdrückt ; seine Provenienz ist sehr fraglich. Das andere, durch C. Beck bei Sidjundjung auf Sumatra gesammelt, ist ein junger Vogel, in dem ich lediglich eine etwas ungewöhnlich rötliche Phase des Jugendkleides von *C. merulinus* erblicke ; und um die gleiche Erscheinung wird es sich wahrscheinlich bei dem von Finsch angeführten jungen Exemplar aus Java, das sich im Leidener Museum befindet, handeln. *Cacomantis passerinus* darf also aus der Liste der Javavögel gestrichen werden.

## XI. Das geographische Variieren von *Centropus bengalensis* (Gm.).

Die Untersuchung dieser Art an der Hand des reichen Materials in den Museen in Tring und London ergab, dass wir mit einer grösseren Anzahl geographischer Formen zu rechnen haben, als bisher angenommen wurde. Man unterschied in der Regel den typischen *C. bengalensis* mit rotbraunem Rücken, und den auf dem Rücken schwärzlicher gefärbten *C. javanensis*, allenfalls trennte man noch die grössere Molukkenform als *C. medius* ab (Salvadori in *Orn. Pap.* u.a.). Doch nennt selbst Hartert in *Nor. Zool.* vol. vii. 1900, p. 232 und vol. x. 1903, pp. 6, 47 die Molukkenvögel *javanicus*! Daneben tauchte immer wieder *C. rectunguis* Strickl. auf, der von Shelley u. a. als "gute Art" angesehen wurde, aber, wie Meyer und Wigglesworth in *The Birds of Celebes*, vol. i. p. 219 betonten, ganz offenbar nur eine individuelle Aberration von *C. javanensis* ist. Der Umstand, dass man gewöhnlich nicht in genügendem Masse die beträchtliche Grössendifferenz der Geschlechter bei diesem "Formenkreis" berücksichtigte (die von Shelley im *Cat. B.* vol. xix. p. 355 sogar vollkommen vernachlässigt resp. nicht erkannt wird) war der Erkenntnis mehrerer, durch Grössendifferenzen wohl unterschiedener Formen hinderlich.

Ich habe mich bei der Aufstellung der folgenden Masstabellen nicht strikt an die Geschlechtsangaben der Sammler gehalten, sondern in mehreren Fällen von den Dimensionen auf das Geschlecht geschlossen, entgegen dem Etikett—eine Massnahme, gegen die wohl niemand Bedenken haben wird, der Gelegenheit gehabt hat, die Unzuverlässigkeit der (vielfach durch eingeborene Präparatoren vorgenommenen) Geschlechtsbestimmung in den meisten tropischen Sammlungen in solchen Fällen festzustellen, wo die Färbung keinerlei Zweifel lässt.

Im folgenden bedeuten:

Zahlen ohne Zusatz: Exemplare des Tring-Museums resp. meiner eigenen Sammlung.

Zahlen mit einem \*: Exemplare des British-Museum.

Zahlen mit der Bemerkung:

P = nach Parrot, *Beiträge zur Ornithologie Sumatras*, p. 187.

M & W = nach Meyer u. Wigglesworth, *The Birds of Celebes*, vol. i. p. 216.

Sh = nach Shelley, *Cat. B.* vol. xix. p. 355.

S = nach Salvadori, *Orn. Pap.* vol. i. p. 376.

M = nach Müller, *J. f. O.* 1882, p. 411.

B & W = nach Bouras u. Worcester in McGregor, *Manual of Philippine Birds*, vol. i. p. 385.

### 1. *Centropus bengalensis bengalensis* (Gm.).

*Cuculus bengalensis* Gmelin, *Syst. Nat.* vol. i. p. 412 (1788—Bengalen).

*Corydonyx maculatus* Bonaterre and Vieillot, *Tabl. Encycl. Méth.* p. 1353 (1823—Bengalen).

*Centropus dimidiatus* Blyth, *J.A.S.B.* vol. xiii. p. 390 (1844—Cuttack).

♂ ♀ ad. Die Säume der schwarzen Federn von Oberkopf, Nacken, Kopf- und Halsseiten, Kehle und Kropf mit lebhaftem blauem, seltener grünlichem Glanz. Mantel und obere Flügeldecken lebhaft rostbraun, stark contrastierend mit der schwarzen Nackenfärbung. Bei jüngeren Stücken sind diese Federn trüb graubraun, und es gewinnt der Vogel in diesem Kleid grosse Aehnlichkeit mit ausgefärbten Exemplaren von *C. bengalensis javanensis*.



Flügelänge in mm :

Burma, Assam, Bhutan und Sikkim :

♂ 139\*, 142\*, 144, 144, 144\*, 145, 146\*, 147, 150, 152\*, 152\*, 152\*.

♀ 156, 156\*, 157\*, 159\*, 161, 161, 163, 163\*, 164, 165\*, 168\*, 168\*.

Tenasserim : ♂ 147\*.

Hainan : ♂ 142, 143, 143, 145, 145.

♀ 154, 158, 159, 159, 161, 163, 165, 167, 168.

Variationsbreite : ♂ 139–152, ♀ 154–168.

*Verbreitung* : Südiindien, Osthimalaya, Ostbengalen, Assam, Burma, Tenasserim, Siam ?, Annam ?, Hainan.

## 2. *Centropus bengalensis lignator* Swinh.

*Centropus lignator* Swinhoe, *Ibis* 1860, p. 48 (Formosa, Amoy, Hongkong).

Grösser als die vorige Form.

Flügelänge in mm. :

Formosa : ♂ 148, 149, 153, 157, 159.

♀ 165, 165\*, 167, 168, 169, 169, 171, 172, 172, 174.

Swatan : ♀ 172—Amoy ♀ 170\*—Fokien ♀ 175\*—Foochow : ♀ 180\*.

Variationsbreite : ♂ 148–159, ♀ 165–180.

*Verbreitung* : Formosa und Südehina, nach Westen zu vermutlich allmählich in die kleinere Form übergehend.

## 3. *Centropus bengalensis javanensis* (Dumont).

*Cuculus javanensis* Dumont, *Dict. Sc. Nat.* vol. xi, p. 144 (1818—Java)

*Centropus lepidus* Horsfield, *Trans. Linn. Soc. Lond.* vol. xiii, p. 180 (1822—Java) : Jugendkleid.

*Centropus affinis* Horsfield, *Trans. Linn. Soc. Lond.* vol. xiii, p. 180 (1822—Java) : Ausgefärbter Vogel.

*Centropus punilus* Lesson, *Traité d'Orn.* p. 136 (1831—Java, Sumatra).

*Centropus rectunguis* Strickland, *P.Z.S.* 1846, p. 104—Malakka.

*Centropus molkenboeri* Bonaparte, *Comp. Ar.* vol. i, p. 108 (1850—Philippinen).

Diese Form ist von *C. bengalensis bengalensis* durch die stets schwarzbraunen Mantelfedern und den geringeren Glanz des schwarzen Gefieders unterschieden. Nach Shelley (*Cat. B.* vol. xix, p. 343) kennzeichnet sich *C. rectunguis* durch den Besitz schwarzer statt branner Unterflügeldecken. Ein derartiges Stück liegt mir von Natuna (coll. Ch. Hose) vor : einige Unterflügeldeckfedern sind brännlich schwarz, bei anderen ist die Innenfahne schwärzlich, die Aussenfahne braun, dritte endlich sind einfarbig braun. Ein ähnliches Exemplar beschreibt Parrot *l.c.* von Java. Da der mir vorliegende Vogel im übrigen vollkommen mit *C. b. javanensis* übereinstimmt, halte ich mit Meyer und Wigglesworth die Erscheinung lediglich für eine nicht allzu seltene individuelle Varietät, und man kann in solchen Fällen allenfalls von einer „*rectunguis*-Phase“ von *C. b. javanensis* reden—wobei es noch fraglich bleibt, ob Strickland ein derartiges Stück bei seiner Beschreibung vorgelegen hat, denn er erwähnt von diesem Merkmal nichts !

Flügelänge in mm. :

Salanga : ♂ 125 (M), 128 (M), 130 (M).

♀ 155 (M), 165 (M).

Malakka : ♂ 131\*, 132\*, 134\*, 137 (M), 137, 145\*.

♀ 150\*, 152\*, 154, 157, 160 (M).

Sumatra : ♂ 133.

♀ 157, 163, 165 (P).

Java : ♀ 132 (M), 134 (M), 135\*, 139 (P).

♀ 153 (P), 157 (P), 161, 163, 166.

Bali : ♂ 135, 139, 146.

♀ 156.

Natuna : ♀ 166.

Singapore : ♂ 137\*.

♀ 153\*, 157\*, 158\*.

Palawan : ♂ 141.

Philippinen : ♂ 135\*, 138\*, 142\*, 143\*, 147\*, 147\*.

♀ 156\*, 159\*, 162\*, 163\*, 164\*.

Sulu : Durchschnitt von 3 ♂ ♂ : 139 (B & W).

„ „ „ 5 ♀ ♀ : 159 (B & W).

Variationsbreite : ♂ 125–147, ♀ 150–166.

*Verbreitung* : Malakka, Natuna, Borneo, Palawan, Philippinen, Sulu-Archipel, Bangka, Sumatra, Java, Bali.

#### 4. *Centropus bengalensis sarasinorum* subsp. n.

Beträchtlich grösser als die vorige Form.

Flügelänge in mm. :

Lombok : ♂ 144\*, 148, 166 ♀ 177, 180\*.

Sumbawa : ♂ 149 ♀ 181.

Flores ♂ 154, 154 (M) ♀ 179\*, 181\*, 182.

Sumba ♂ 150 ♀ 173, 177.

Savu ♂ 152

Pantar n. Alor : ♂ 151, 153, 158\*, 163.

Wetter : ♂ 157 ♀ 180.

Kisser : ♂ 149, 166 ♀ 173.

Roma : ♂ 158 ♀ 174, 181, 181.

Letti : ♂ 148 ♀ 169, 170, 171.

Timor : ♂ 154\*, 155\*, 158\*, 166.

Celebes : ♂ 148, 150, 151\*, 153, 154 (M & W), 156 (do.), 157 (do.), 158 (do.), 159 (do.), 161.

♀ 172 (M & W), 174 (do.), 176 (do.), 179\*, 180 (M & W), 180, 183 (M & W).

Kalao n. Djampea : ♂ 157 ♀ 174, 176.

Kalidupa : ♂ 155\*, 155, 157, 166 ♀ 182, 184, 190\*.

Talant : ♂ 157 ♀ 174, 176.

Siao : ♂ 168 ♀ 188

Sangir : 163, 164, 165.

Variationsbreite : ♂ 144–168 ♀ 169–190.

*Verbreitung* : Lombok, Sumbawa, Sumba, Savu, Flores, Djampea, Kalao, Kalidupa, Celebes, Siao, Sangir, Talant : Pantar, Alor, Wetter, Kisser, Roma, Letti, Moa, Timor.

Von grossem Interesse ist, dass die Lombokstrasse diese und die vorhergehende Form scharf zu trennen scheint, und wir weder auf den westlichen kleinen Sundainseln, noch auf den Inseln der Sangir-Gruppe Verbindungsglieder antreffen.

Ich benenne diese Form zu Ehren der verdienstvollen Zoogeographen und Erforscher von Celebes, die auf die grosse Bedeutung der Celebes-Flores-Brücke für die Einwanderung westlicher Arten nach Celebes hingewiesen haben. Diese Annahme findet in der geographischen Verbreitung der Ornis auch in einer Anzahl neuerdings untersuchter Fälle ihre volle Bestätigung.

### 5. *Centropus bengalensis medius* (Bp.).

*Centropus medius* Bonaparte, *Consp. Av.* vol. i. p. 108. (1850—Amboina; Java!) Patr. corr. Ambon.

*Centropus moluccensis* Cabanis & Heine, ex Bernstein MS., *Mus. Hein.* vol. iv. pp. 113–114 (1862—“Timor” und Ternate). Als Typus dürfen wohl die beiden im Berliner Museum befindlichen Stücke gelten, die durch Bernstein auf Ternate gesammelt wurden. Timor errat. pro Timor an Tidore?

Diese Form ist noch grösser als *C. b. sarasinorum*. Flügellänge in mm.:

Ambon: ♂ 172, 175 (S), 175 (S). ♀ 197, 198, 200, 201, 203, 205.

Ceram: ♂ 168 ♀ 198 (Sh), 201

Buru: ♂ 172, 177, 177. ♀ 200.

Batjan: ♂ 169.

Obi: ♂ 160.

Halmahera: ♀ 195 (S), 200 (S).

Ternate: ♀ 190 (S).

Variationsbreite: ♂ 160–177 ♀ 190–205.

Verbreitung: Ceram, Ambon, Buru, Batjan, Obi, Halmahera, Ternate, Tidore, Morotai.

## XII. Die Formen von *Eos bornea* (L.).

### 1. *Eos bornea bornea* (L.).

*Psittacus borneus* Linnaeus, *Syst. Nat.* ed. x. p. 97 (1758—Borneo!) patr. subst.: Ambon.

*Psittacus chinensis* Ph. L. St. Müller, *Syst. Nat. Suppl.* p. 77 (1776—China!).

*Psittacus ruber* Gmelin, *Syst. Nat.* vol. i. p. 335 (1788—Molukken; Neu-Guinea!).

*Psittacus moluccensis* Latham, *Indr. Orn.* vol. i. p. 116 (1790—Molukken).

*Psittacus caruleatus* Shaw, *Nat. Misc.* vol. xxii. p. 937 (1810—Molukken).

♂ ♀ ad. Hauptfärbung ein leuchtendes Rot. Basis des roten Körpergefieders weiss. Handschwingen schwarz mit grossem rotem Flügelspiegel, Armschwingen rot mit schwarzem Endsaum. Grosse Flügeldecken mit schwarzer, nach dem Rand zu bläulich werdender Aussenfahne. Stenerfedern oberseits dunkel rötlich brann. Scapularen und Unterschwanzdecken leuchtend cyanblau.

Jac.: Wie der adulte Vogel mit folgenden Unterschieden: Unterschwanzdecken düster rot. Die Spitzen der Federn von Bauchmitte und Analregion und die Spitzen der Schenkelbefiederung meist, aber anscheinend nicht immer, blau. Grosse Flügeldecken mit schwarzer, zuweilen lebhaft blau gesäumter Aussenfahne. Meist, aber anscheinend nicht immer weisen einige Ohrdeckfedern blassblaue Spitzen auf, die erst bei genauerer Untersuchung des Vogels auffallen. Scapularen rötlich schwarz, zuweilen mit blauer Säumung. Alle roten Federn des Körpergefieders mit breiter granbrauner Basis, die etwa zwei Drittel der Feder einnimmt.

Intermediäres Kleid: Wie der adulte Vogel, aber die Unterschwanzdecken

rötlich violett mit cyanblauen Spitzen von wechselnder Ausdehnung. Zuweilen finden sich noch in diesem Kleid blaue Federspitzen in der Bauchmitte.

Flügelänge in mm. (Zahlen ohne Stern bedeuten: Tring-Museum oder (bei allen Ceramstücken) meine Sammlung; mit Stern: British Museum):

Ambon: ♂ 169, 170, 171, 172.

♀ 160\*, 164, 165\*, 169, 169\*.

*Verbreitung*: Ambon.

## 2. *Eos bornea rothschildi* subsp. n.

Ganz wie die vorige Form, aber wesentlich kleiner.

♂: 154, 154, 155, 155, 155, 157, 157, 158, 158, 159, 159, 163\*.

♀: 147, 151, 153, 154, 154.

*Verbreitung*: Ceram.

Typus: ♂, Manusela (Mittel-Ceram) 3000 f, 13. vi. 1911, E. Stresemann coll. No. 649.

Ich benenne diese Form zu Ehren des Herrn Baron W. von Rothschild, dessen Arbeiten über Psittaciden viel zur besseren Kenntnis dieser Ordnung beigetragen haben.

## 3. *Eos bornea bernsteini* Rosenb.

*Eos bernsteini* v. Rosenberg, *Nat. Tijdschr. Ned. Ind.* vol. xxv. p. 145 (1863—Kei-Inseln).

*Domicella schlegelii* Finsch, *Die Papageien* vol. ii. p. 792 (1868—Kei-Inseln).

*Eos kühni* Rothschild, *Nor. Zool.* vol. v. p. 110 (1898—Tual, Kei-Inseln).

Der adulte Vogel stimmt mit dem von *E. bornea bornea* überein, scheint aber durchschnittlich etwas grössere Dimensionen zu erreichen. Sehr abweichend ist das Jugendkleid, auf das die Namen *bernsteini*, *schlegelii* und *kühni* gegründet wurden: die Ohrgegend zeichnet sich hier durch eintönig blaue Färbung aus, die, am hinteren Augenwinkel beginnend, sich bis zum Nacken herabzieht; in gleicher Weise sind einige Federchen über dem Auge blau, die Kehl- und Kropffedern schmal blassblau gesäumt. Ein gemeinsames Merkmal der Jungvögel aller Formen ist es, dass die Spitzen der Federn in der Bauchmitte blau und die Unterschwanzdecken rot gefärbt sind; ferner, dass die Basis des Körpergefieders graubraun ist.—Mir liegen 4 juv. von den Kei-Inseln vor.

Eine Abbildung dieses interessanten Jugendkleides, das eine bemerkenswerte Annäherung an den *semilarvatus*-Typus bildet, findet sich in *Nor. Zool.* vol. v. 1898, t. xviii. Im gleichen Bande pp. 509-510, wurde der Jungevogel durch Rothschild eingehend beschrieben.

Flügelänge ad. Exemplare in mm.:

Kei-Inseln: ♂ 171, 174, 174\*, 174, 176\*, 178.

♀ 166, 167, 169, 169.

*Verbreitung*: Kei-Inseln (im Tring Museum von Tual, Gross-Kei, Taam und Vertikur).

## 4. *Eos bornea bernsteini* $\leq$ *rothschildi*.

Vögel von Tior, Kisui (Watubela-Archipel), Goram und Ceramlant sind hinsichtlich der Grösse intermediär zwischen Kei- und Ceramvögeln; ein Jungvogel von Tior nähert sich in der Färbung der Ohrdecken weit mehr dem *bernsteini*-Typ, ein solcher von Goram im British Museum ist an dieser Region nur wenig blauer gefärbt als junge Ceramer.

Flügelänge in mm. :

Ceramlaut :	♀ 158.
Goram : ♂ 167, 167*, 169	♀ 158, 159, 159*.
Tior : ♂ 163, 166	♀ 155, 157, 157, 163.
Kisni : ♂ (als ♀ bezeichnet) 167, 167.	

*Verbreitung* : Ceramlaut, Goram- und Watubela-Archipel.

### 5. *Eos bornea cyanonotus* (Vieill.).

*Psittacus cyanonotus* Vieillot, *Nouv. Diet.* vol. xxv. p. 334 (1817—Molukken). Patr. subst. : Buru, cf. Hartert, *Nor. Zool.* vol. vii. 1900, p. 228.

Der angefärbte Vogel unterscheidet sich von allen übrigen Formen durch das sehr viel dunklere, weniger leuchtende Rot besonders auf der Unterseite, dem Rücken und den Oberflügeldecken. Im Jugendkleid (mir liegen vier junge Vögel vor) ähnelt die Burnform dem oben erwähnten Tiorstück : die Ausbildung der blauen Färbung in der Ohrgegend hält im allg. die Mitte zwischen Kei- und Ceramvögeln, scheint übrigens individuellen Schwankungen in ziemlich hohem Grade zu unterliegen, wie dies beim einem offenbar atavistischen Färbungscharakter auch nicht verwunderlich ist.

♂ 151, 156, 156, 158.

♀ 148, 151, 153.

*Verbreitung* : Buru.

## XIII. Die Gattung *Phyllergates*.

In *Nor. Zool.* 1897, pp. 517—518 gibt Hartert eine Uebersicht der Formen von *Phyllergates*. Neneres Material hat ergeben, dass die dort angegebenen Merkmale nicht alle zutreffend sind, auch sind inzwischen weitere Arten beschrieben worden, sodass eine neue Zusammenstellung der bekannten Formen am Platze erscheint.

### Uebersicht.

- A. Das äusserste Steuerfederpaar mit ganz weisser Innenfahne, das nächste Paar mit ausgedehntem weissem Saum der Innenfahne. *Ph. coronatus*.
- B. Die Innenfahne des äussersten Steuerfederpaares nur teilweise oder gar nicht weiss . . . . . *Ph. cucullatus*.
  - a. Unterkörper weisslich, nur die Flanken blass gelb *Ph. c. riedeli*.
  - b. Ganzer Unterkörper gelb.
    - a. Nacken dunkel aschgrau . . . . . *Ph. c. cucullatus*.
    - β. Nacken dunkel olivbraun oder rötlich braun. *Ph. c. dumasi*.
    - γ. Nacken schwärzlich grauliv.
      - 1. Unterkörper leuchtend gelb . . . . . *Ph. c. everetti*.
      - 2. Unterkörper schmutzig olivgelb . . . . . *Ph. c. batjanensis*.

### *Phyllergates cucullatus cucullatus* (Temm.).

*Orthotomus cucullatus* Temmiuck, *Pl. Col.* vol. iii. t. 599. f. 2 (1836—Java, Sumatra).

*Phyllergates sumatranus* Salvadori, *Ann. Mus. Civ. Gen.* vol. xxxii. p. 67 (1822—Sumatra).

*Phyllergates cinericollis* Sharpe, *Ibis* 1888. p. 479 (N. W. Borneo).

*Phyllergates cucullatus philippinus* Hartert, *Nor. Zool.* vol. iv. p. 517 (1897—Nord-Luzon).

Hartert gibt *l.c.* p. 518 an, dass Stücke von Borneo, Malakka und Java sich durch das Fehlen irgend welcher weissen Zeichnung am äussersten Steuerfederpaar

auszeichnen. Dieses Merkmal ist jedoch nicht stichhaltig, da mehrere der mir aus der Malayischen Halbinsel und von Java vorliegende Exemplare eine—individuell verschiedene breite—weisse Säumung der Innenfahne dieser Federn zeigen, wenn das Weiss auch niemals die ganze Innenfahne einnimmt wie bei *Ph. coronatus*. Beim Vergleich von 8 Stücken aus Malakka, 5 von Borneo (darunter die beiden Typen von *Ph. cinereicollis*), 3 von Java, 1 von Bali und 3 von Luzon (darunter der Typus von *Ph. c. philippinus*) habe ich keine Merkmale ausfindig machen können, die eine Trennung rechtfertigen. Die Nackenfärbung der Borneostücke ist keineswegs heller als bei den meisten Exemplaren von Malakka, Java oder Luzon, und der Typus von *Ph. c. philippinus* ist ein Vogel mit weisser Zeichnung an der Spitze der Innenfahne des äussersten Steuerfederpaares, wie sie sich—ich erwähnte dies bereits oben—auch bei Java- und Perakstücken gelegentlich findet. Die beiden anderen jetzt im Tring-Museum befindlichen Luzoner besitzen keinerlei Weiss an den betreffenden Federn! Die Form *Ph. sumatranus* endlich ist ganz offenbar nach einem jungen Vogel von *Ph. cucullatus cucullatus* beschrieben worden, bei dem die rotbraune Kopfplatte noch nicht ausgebildet ist.

Verbreitung der Formen :

*Phyllergates coronatus* (Jerd. & Blyth) : Östlicher Himalaya von Sikkim bis Assam ; Manipur, Burma.

*Phyllergates cucullatus cucullatus* (Temm.) : Malakka, Sumatra, Java, Bali, Borneo, Luzon.

*Phyllergates cucullatus everetti* Hart. : Flores.

*Phyllergates cucullatus dumasi* Hart. : Burn, Ceram.

*Phyllergates cucullatus batjanensis* Hart. : Batjan.

*Phyllergates cucullatus riedeli* Meyer & Wigl. : Celebes.\*

#### XIV. *Criniger affinis harterti* subsp. n.

*Criniger longirostris* (nec Wall. !), Meyer & Wilesworth, *Abh. Mus. Dresden* 1896 Nr. 2 p. 17 ;  
Hartert, *Nov. Zool.* vol. v. 1898 p. 133 (pt.).

*Iole longirostris* (nec Wall. !), Meyer & Wilesworth, *The Birds of Celebes* vol. ii. p. 497.

Diese Form, die *Peling* und *Banggai* bewohnt, wurde bisher mit der Sulaform vereinigt. Sie unterscheidet sich aber von dieser durch viel stärkeren olivfarbenen Anflug an Kropf, Vorderbrust und Flanken, etwas weniger gelbliche Oberseite und viel schmäler gelbe Säumung der Innenfahne des äussersten Steuerfederpaares.

Flügel 117–128 mm. (5 Ex. geprüft und mit 8 Sulavögeln verglichen).

Typus : Peling, zwischen Mai und August 1895, coll. Curshams eingeborene Sammler, im Tring-Museum.

#### XV. *Stigmatops indistincta* und *Stigmatops argentauris*, ihre Formen und deren Synonymie

In der Klassifikation dieser beiden Arten herrscht bis zum heutigen Tag die grösste Verworrenheit. Der nicht unbeträchtliche Geschlechts-dimorphismus und der Umstand, dass beide Arten sich im weiblichen Geschlecht ziemlich ähnlich sind, hat zu einer langen Kette von Irrtümern geführt, und die absurde Verbreitung, die man auf Grund davon bei einigen Formen constatieren zu müssen

*Phyllergates heterolaemus* Mearns dürfte in eine ganz andre Gruppe gehören.

glaubte, suchte man durch weite, offenbar recente Wanderungen über die Meere hin zu erklären. So sieht sich z. B. Gadow im *Cat. of Birds* vol. ix. veranlasst, eine "Continentalrasse" und eine "Inselrasse" von "*G. ocellaris*" zu unterscheiden. Eine eingehende Revision ergab, dass die Formen in Wahrheit ein ziemlich beschränktes Wohngebiet besitzen.

Diagnose der Arten :

♀ : Unter und hinter dem Auge ein grosses nacktes Hautfeld, Pinselfederchen nur vor und unter dem vorderen Augenwinkel . . . . . *St. argentauris*.

♀ : Vom Zügel bis in die Nähe der Ohröffnung zieht durch die Mitte des nackten Hautfeldes ein schmaler Streif pinselartiger Federchen . . . . . *St. indistincta*.

1a. *Stigmatops indistincta indistincta* (Vig. & Horsf.).

*Meliphaga indistincta* Vigors u. Horsfield, *Trans. Linn. Soc. Lond.* vol. xv. p. 315 (1825—King Georges Sound, West-Australien). Typus im British Museum.

*Glycyphila ocellaris*, Race *Gl. subocularis*, pt., Gadow, *Cat. B.* vol. ix. 1884, p. 214.

*Glycyphila ocellaris*, Race *Gl. ocellaris*, pt., Gadow *l.c.* p. 214.

*Stigmatops ocellaris*, pt., Sharpe, *Handlist* vol. v. 1909, p. 78.

*Stigmatops subocularis* (nec Gould!), Sharpe *l.c.* p. 78.

*Stigmatops indistincta indistincta* Mathews, *Nor. Zool.* vol. xviii. p. 402 (1912).

*Stigmatops indistincta media* Mathews, *l.c.* p. 403 (1912—N.W.-Australien: Wynllham).

*Stigmatops indistincta perplexa* Mathews, *l.c.* p. 403 (1912—N.W.-Australien: Uongan-river bis Derby).

*Stigmatops indistincta rufescens* Mathews, *l.c.* p. 402 (1912—Nord-Territorium).

♂ ad: Kopf und Nacken düster bräunlich grau, selten und wahrscheinlich nur bei jüngeren Stücken mit grünlichen Anflug. Rücken hell bräunlich oliv, Unterrücken und Oberschwanzdecken heller und mehr bräunlich. Steuer- und Schwungfedern mit hell olivgrünen Säumen, Kinn, Kehle und Kropf blass grau, undeutlich weisslich gesprenkelt, Unterkörper schmutzig weisslich, gelblich verwaschen; Flanken und Unterschwanzdecken gelblich weiss. Ein Fleck in der Ohrgegend weisslich gelb bis dunkel gold-gelb, eine grosse Anzahl pinselartiger kurzer Federchen unter dem Auge mit weissen Spitzen und schwarzer Basis. Flügel von 11 Exemplaren: 67–74 mm.; Schnabel in der Mundspalte 18–20 mm.

♀ ad: Oberseite etwas blasser, Kopf und Nacken ausgesprochen olivgrün, Unterrücken und Oberschwanzdecken bräunlicher als beim ♂. Kinn gelblich grün. Kehle und Kropf blass grau, gelblich verwaschen; Unterkörper schmutzig weiss, gelblich verwaschen. Der gelbe Ohrfleck fehlt oder ist nur schwach angedeutet. Flügel von 7 Exemplaren 59–66 mm., Schnabel in der Mundspalte 16–17 mm.

Verbreitung: Ganz Nord- und West-Australien, Nord-Queensland.

Nach eingehender Prüfung der schönen Serien in der Sammlung von Mr. Mathews bin ich zu der Überzeugung gelangt, dass sich seine Formen *perplexa* und *media* durchaus nicht von typischen *indistincta* unterscheiden lassen. Der Name *St. i. rufescens* ("a rufous brown phase, the colouring throughout being sandy or rufous where in the type it is brownish or olive"—Mathews *l.c.*) ist auf ein pigmentarmes (xanthochroistisches) Stück gegründet, wie deren zwei von Nordwest-Australien sich auch im British Museum befinden. Die ganze Oberseite ist hier bräunlich ockerfarben, ebenso gefärbt sind die kleinen oberen Flügeldecken, Kinn und Kehle, während die übrige Unterseite, Schwingen und Steuerfedern die normale Färbung aufweisen. Schnabel und Füsse sind braun—bei normalen Exemplaren dagegen ist der Schnabel schwarz, die Füsse blaugrau.

**1b. Stigmatops indistincta ocellaris** (Gould).

*Glycyphila* (?) *ocellaris* Gould, *P. Z. S.* 1837 p. 154—van Diemensland (!); id., *Synops. Bird Austr.* vol. iv, App. p. 6 (1838—N. S. Wales).

*Glycyphila* (?) *subocellaris* Gould, *P. Z. S.* 1837, p. 154—N. S. Wales.

*Glycyphila ocellaris* pt., Gadow, *Cat. B.* vol. ix, p. 213.

*Glycyphila ocellaris*, Race *Gl. subocellaris*, pt., Gadow, *l.c.* p. 214.

*Stigmatops ocellaris*, pt., Sharpe, *Haullist* vol. v, 1909, p. 78.

*Stigmatops indistincta ocellaris* Mathews, *Nor. Zool.* vol. xviii, p. 402.

Ganze Oberseite, insbesondere der Kopf, beim ♂ dunkler als bei der vorigen Form. Jüngere Stücke scheinen nicht unterscheidbar zu sein.

*Verbreitung*: Süd-Queensland, N. S. Wales, Victoria.

Gadow trennt offenbar im *Cat. B.* die ♂♂ von den ♀♀, erstere unter dem Namen *Gl. ocellaris*, letztere als *Gl. subocellaris* beschreibend.

**1c. Stigmatops indistincta melvillensis** Mathews.

*Stigmatops indistincta melvillensis* Mathews, *Austral. Avian Record* vol. i, p. 50 (1912—Melville-Insel).

Ich habe das Material von Mr. Mathews geprüft, kann jedoch keine Charaktere entdecken, die eine Abtrennung von *St. i. ocellaris* berechtigen. Dies ist um so auffälliger, als die gegenüberliegende Festlandküste die helle Form *St. i. indistincta* zu beherbergen scheint. Ich glaube daher immerhin noch an die Möglichkeit, dass sich unterscheidende Merkmale feststellen lassen.

Flügelänge: ♂ 68.5, 69, 70, 70, 70, 72 mm.

♀ 61, 62, 62, 63 mm.

*Verbreitung*: Melville-Inland.

**1d. Stigmatops indistincta limbata** (S. Müll.).

*Meliphaga* (*Ptilotis*) *limbata* S. Müller, *Verh. Nat. Gesch. Land- u. Volkenk.* (1839-44) p. 162—Timor.

*Ptilotis limbata* Gadow, *Cat. B.* vol. ix, p. 236 (♀).

*Glycyphila ocellaris*, Race *Gl. chloris*, pt., Gadow, *l.c.* p. 214 (♂).

*Stigmatops ocellaris*, pt., Salvadori, *Orn. Pap.* vol. ii, 1881, p. 323.

*Stigmatops ocellaris* (nec Gould!) Buttikofer, *Not. Legd. Mus.* vol. xiv, 1892, p. 200: Hartert, *Nor. Zool.* vol. iii, 1896, p. 558.

*Stigmatops limbata* Sharpe, *Haullist* vol. v, 1909, p. 78.

Von *St. i. indistincta* leicht zu unterscheiden an der viel dunkleren Gesamtfärbung; *St. i. ocellaris* gegenüber dadurch gekennzeichnet, dass das ♂ eine weisslichere Kehle besitzt, und dass die Oberseite meist um einen geringen Grad heller und gelblicher ist. Beim ♀ sind insbesondere die Kinnseiten und die Federn hinter dem Ohr intensiv gelb gefärbt, ähnlich ist die Färbung der jungen ♂♂, die jedoch durchweg grösser sind.

Flügel von 16 ♂♂: 67-76 mm.; von 9 ♀♀: 62-68 mm.

*Verbreitung*: Bali, Lombok, Sumbawa, Sumba, Savu, Flores, Alor, Timor.

**1e. Stigmatops indistincta nupta** subsp. n.

*Glycyphila ocellaris*, Race *Gl. chloris*, pt., Gadow, *Cat. B.* vol. ix, p. 214.

*Stigmatops ocellaris* (nec Gould!), Salvadori, *Orn. Pap.* vol. ii, 1881 p. 323; Sharpe, *Haullist* vol. v, p. 78.

*Stigmatops argentauris* (nec Finsch!), Rothschild & Hartert, *Nor. Zool.* vol. x, 1903, p. 440; Graf Berlepsch, *Abh. Senckenb. Naturf. Ges.* vol. 34, 1911, Heft i, p. 70.

*Stigmatops ocellaris chloris* (nec Salvadori!), Graf Berlepsch, *l.c.* p. 70.

*Stigmatops argentauris*, pt., Sharpe, *l.c.* p. 78.

♂ ad: Oberkopf und Nacken viel dunkler als bei allen anderen Formen, dunkelgrau bis dunkel schwarzgrau; Rücken dunkel grauoliv; Kinn, Kehle und



Kropf etwas dunkler grau als bei *St. i. ocellaris*. Nicht ausgefärbte Exemplare unterscheiden sich weniger deutlich.

♀ ad : Oberseite dunkel oliv, wesentlich dunkler als beim ♀ von *St. i. ocellaris* und *limbata*. Kinn, Kehle und Kropf trüb grau mit nur geringem gelblich grünem Anflug.

“ Iris kaffeebraun, Füsse bleigrau, Schnabel schwarz ” (Kühn).

Flügelänge : ♂ 70, 70, 71, 71, 73, 74, 75, 76.

♀ 65, 66, 67, 68.

Typus : ♂, Manien (Aru-Inseln) 19. xi. 1897, H. Kühn coll., im Tring-Museum.

Verbreitung : Aru-Inseln.

## 2a. *Stigmatops argentauris argentauris* (Finsch).

*Ptilotis argentauris* Finsch, *Abh. Naturw. Verein Bremen* vol. ii. p. 364 (1875—patr. ign. : patr. subst. : Waigen).

*Stigmatops chloris* Salvadori, *Ann. Mus. Civ. Gen.* vol. xii. p. 337 (1878—Gebe); id., *Orn. Pap.* vol. ii. 1881, p. 325.

*Stigmatops argentauris*, Salvadori, *Orn. Pap.* vol. ii. p. 324.

*Glycyphila ocellaris*, Race *Gl. chloris*, pt., Gadow, *Cat. B.* vol. ix. p. 214.

*Glycyphila ocellaris* subsp. a *Gl. argentauris*, Gadow, *l.c.* p. 215.

*Stigmatops argentauris*, pt., Sharpe, *Haullist* vol. v. p. 78.

*Stigmatops chloris*, Sharpe, *l.c.* p. 78.

Durch die Liebenswürdigkeit des Herrn Prof. Dr. Schaninsland bin ich im Stand gewesen, den im Bremer Museum aufbewahrten Finsch'schen Typus zu prüfen, wodurch sich die Identität von *Stigmatops chloris* Salvad. mit dieser Art ergab. Der Typus von *St. argentauris* ist ein ♀ von 67 mm. Flügelänge, derjenige von *St. chloris* ein ♂, und die Verschiedenheit der Geschlechter hat hier wie mehrfach in dieser Gattung zu ihrer anfänglichen spezifischen Trennung verleitet.

♂ : Oberseite dunkel oliv, Unterseite hell gelblich oliv, leicht grau verwaschen, die Kehle am hellsten. Die Spitzen einiger kurzer pinselartiger Federchen unter dem Auge sind gelb, ein grosses Ohrbüschel glänzend weiss. Oberseite der Steuerfedern und Aussenfahne der Schwingen gelblich oliv. Flügel 76, Schnabel in der Mundspalte 19 mm.

♀ : Allgemeinfärbung wie beim ♂, aber die Kehle stärker gelblich überflogen. Die Gegend hinter und unter dem Auge ist unbefiedert, wodurch ein nacktes Hautfeld von ziemlich beträchtlicher Ausdehnung entsteht. Die Zügelgegend bedecken einige sehr kurze weisse Pinselfederchen. Ohrbüschel glänzend weiss, von geringerer Ausdehnung als beim ♂. Flügel 65–67 mm., Schnabel in der Mundspalte 18–18,5 mm.

Verbreitung : Gebe, Halmahera, Damar bei Halmahera, Misol, Waigen.

## 2b. *Stigmatops argentauris patasiwa* subsp. n.

♂ : Ähnlich demjenigen der typischen Form, aber oberseits heller und mehr grünlich grau-oliv : auch die Unterseite ist heller. Die Pinselfederchen unter dem Auge wesentlich kürzer und nicht gelb, sondern weiss. Iris graubraun, Füsse granblau, Schnabel schwarz, Wurzel des Unterschnabels gelbbraun, Mundwinkel gelb. Flügelänge 72, Schnabel 20 mm.

♀ : In der Färbung der Ober- und Unterseite mit dem ♂ übereinstimmend und mithin vom ♀ der typischen Form verschieden, während es im Befiederungstypus der Kopfseiten mit diesem übereinstimmt. Iris, Schnabel und Füsse sind wie beim ♂ gefärbt.

Flügelänge : 62, 63, 64, 64 mm.

Typus : ♂, Lusaolate (Nordküste von Ceram), 27. viii. 1911, E. Stresemann coll. No. 869.

*Verbreitung* : Ich habe diese Art nur einmal in einem grossen Schwarm auf der genannten kleinen Koralleninsel getroffen.

## XVI. Über einige Formen von *Zosterops palpebrosa* (Temm.).

In *Nor. Zool.* vol. iii. (1896) p. 540 vereinigt Hartert *Zosterops neglecta* Seebohm mit *Z. citrinella* Bp. und gibt, *l.c.* p. 557, als Verbreitungsgebiet an : "Java und kleine Sundainseln bis Timor." Finsch (*Tierreich Lief.* 15, 1901, Zosteropidae p. 16) trennt beide Formen wieder und, wie mir scheint, im Princip mit Recht, wenn auch seine Diagnosen unrichtig sind, da er in der Praxis beide Formen verwechselt und *citrinella* teilweise zu *neglecta* stellt. Auf Grund des mir vorliegenden Materials (2 Exemplare von Ost-Java, 5 von Bali, 7 von Lombok, 2 von Flores, 4 von Sumba, 4 von Savu, 9 von Timor, 6 von Alor) komme ich zu folgendem Ergebnis.

### 1. *Zosterops palpebrosa neglecta* Seeb.

*Zosterops neglecta* Seebohm, *Bull. B. O. Club* vol. i. p. 26 (1893—Ostjava).

Von *Z. p. citrinella* durch folgende Merkmale unterschieden : Die Oberseite ist weniger gelblich und von einem leuchtenderen Grün, und steht in ihrem Ton derjenigen von *Z. p. simplex* näher. Ebenso ist das Gelb an Kehle und Unterschwanzdecken meist einen Schein grünlicher als bei *Z. p. citrinella*. Die Iris ist stets weiss oder weissgrau : Über die Irisfärbung der Ostjavastücke cf. Whitehead, *Expl. Kina Balu*, 1893, p. 261 ; alle von mir untersuchten Exemplare aus Bali hatten weisse oder weissgraue Iris ; auf den Etiketten der Lombok- und Floresstücke im Tring-Museum ist die Färbung der Iris nur bei einem Vogel aus Lombok angegeben : yellowish (Doherty).

*Verbreitung* : Gebirge von Ost-Java, Bali, Lombok und Flores oberhalb 3000 f.—Auf Java traf Doherty diese Form am G. Ardjuno zwischen 8000 u. 10,000 f., Whitehead in der Umgebung von Tosari bei 5500 f. ; ich selbst fand sie auf Bali oberhalb 4000 f. nur dort, wo *Casuarina montana* auftrat ; auf Lombok wurde sie von Doherty und Everett nur oberhalb 3000 f. gesammelt, auf Flores von den Jägern Everetts gleichfalls oberhalb 3000 f.

### 2. *Zosterops palpebrosa citrinella* Bp.

*Zosterops citrinella* Bonaparte ex S. Muller MS., *Consp.* vol. i. p. 398 (1850—Timor).

Die Irisfärbung scheint bei dieser Form meist, aber nicht regelmässig braun zu sein. Bei einer Serie von 7 Exemplaren aus Timor (Bonleo, 1100 m.), gesammelt durch Dr. Hauiel 1911, die ich durch Güte von Herrn Hellmayr vergleichen konnte, ist die Iris fünfmal (2 ♂♂, 2 ♀♀, 1 sex?) als braun angegeben, einmal als weissgrau!, einmal als gelb? Von den 10 Exemplaren des Tring Museums führen nur 2 die Bezeichnung der Irisfärbung auf der Etikette : 1 ♂ von Savu und 1 ♂ von Sumba, beide durch Everett gesammelt, sind als braunäugig bezeichnet.

*Verbreitung* : Timor, Savu, Sumba. Diese Form scheint nicht an das Gebirge gebunden zu sein ; sie wurde z. B. von Everett bei Atapupu, an der Nordwestküste Timors, gesammelt.

3. *Zosterops palpebrosa harterti* subsp. n.

*Zosterops palpebrosa citrinella* am nächsten stehend, aber die Oberseite ist etwas gelblicher und kommt im Ton derjenigen der typischen, vorderindischen Form gleich. Der Bürzel ist goldgelb und sticht stark gegen die übrige Oberseite ab, im Gegensatz zu dem Befund bei *Z. p. citrinella* und *neglecta*. Die Unterschwanzdecken sind hell goldgelb, von der gleichen Farbe wie die Kehle, nicht grünlich gelb. "Iris raw sienna brown; bill dusky black, basal half of lower mandible plumbeous; legs lead-grey" (Everett).

Flügelänge: ♂ 53,5, 56, 56, 57, 58. ♀ 56 mm.

Typus: ♂, Alor, 30. März 1897, coll. A. Everett, im Tring-Museum.

Verbreitung: Alor (Küstenzone?).

4. *Zosterops palpebrosa foghaensis* subsp. n.

Sehr ähnlich *Z. p. neglecta*, aber die Seiten des Unterkörpers zart grau, die Mitte gelblich weiss. Iris grauweiss (2 Exemplare untersucht); Füsse dunkelgrau; Oberschnabel und Spitze des Untersnabels schwarz; Basis des Untersnabels hell grau. Flügel 57 mm.

Typus: ♀, Gunung Fogha (=Kapala Madang="Mount Mada"), N.W. Buru, 5500 f., 28. ii. 1912, E. Stresemann coll. No. 1991.

Diese Form scheint nur in den Kasuarinenbeständen auf dem Gipfelplateau des G. Fogha, des höchsten Berges von Buru, vorzukommen, wo sie häufig ist.

XVII. Die Formen von *Collocalia linchi* Horsf. & Moore

In seiner 1906 in *Proc. Acad. Nat. Science Philadelphia*, vol. 58, pp. 177—212, erschienenen Arbeit: "A Monograph of the Genus *Collocalia*," beschreibt Mr. Oberholser 3 neue Formen von *Collocalia linchi* aus den Sammlungen Dr. Abbotts. Ein Vergleich seiner Angaben mit meinen Befunden am Material des Tring-Museums und des British Museum ergab, dass die von genanntem Autor festgestellten Tatsachen sich im allgemeinen bestätigen, und wir in der Tat mit einer grösseren Anzahl mehr oder weniger ausgebildeter, bisher übersehener geographischer Formen zu rechnen haben. In einigen Fällen bilden die Sammlungen in Tring und London eine wichtige Ergänzung des Materials, welches Oberholser vorgelegen hat, und widerlegen Vermutungen, die dieser Autor betreffs der geographischen Verbreitung der Formen über sein Material hinaus gefasst hat. Es erscheint infolgedessen notwendig, die ganze Gruppe noch einmal in Kürze zu behandeln.

I. *Collocalia linchi linchi* Horsf. & Moore

*Collocalia linchi* Horsfield & Moore, *Cat. B. Mus. East Ind. Comp.* vol. i. p. 109 (1854—Java).

Die von Oberholser *l.c.* p. 201 gegebene Beschreibung bezieht sich nicht auf diese Form, sondern auf *C. l. oberholseri* (s. u.). Die typische Form hat Oberholser nicht untersucht.

Oberseite schwärzlich graugrün, fast ohne Glanz, nur die Federn des Oberkopfes, des Unterrückens und die Oberschwanzdecken mit dunkel blau-metalischen Spitzen. Federn von Kehle, Kropf und Brust bräunlich grau, die des Unterkörpers weiss mit dunkel bräunlich-grauen Centren.

Flügelänge in mm. :

Java : 93, 95\*, 95, 96\*, 96\*, 98\*, 98·5\*.

Bali : ♀ 96.

Lombok : ♂♂ 95, 97.

Verbreitung : Java, Kangean, Bali, Lombok.

## 2. *Collocalia linchi cyanoptila* Oberh.

*Collocalia linchi cyanoptila* Oberholser, l.c. p. 205 (terr. typ. : Bungaran).

*Collocalia linchi linchi*, pt., Oberholser l.c. p. 204.

Oberseite sehr viel bläulicher als bei der typischen Form und stärker glänzend. Federn von Kehle, Kropf und Brust sehr dunkel grau, Brustfedern mit schwachem grünmetallischem Schimmer. Die weissen Säume an den Federn des Unterkörpers weniger breit. *C. l. cyanoptila* ist wesentlich grösser als *C. l. linchi*; Exemplare von Malakka, Singapore, Lingga und vom Flachland Borneo's stimmen vollkommen mit einander überein, und das Wohngebiet der Form ist demnach beträchtlich grösser als Oberholser annahm, erstreckt sich wahrscheinlich auch auf Sumatra, woher mir leider kein Exemplar vorliegt.

Flügelänge in mm. :

Malakka : 102, 102\*, 103\*, 103\*, 104\*, 106.

Singapore : 103\*, 105 (Oh).

Lingga : 101,5 (Oh), 103, 104.

Natuna : 102 (Oh), 107 (Oh), 108 (Oh).

Borneo : 102\*, 103, 104\*.

Verbreitung : Malakka, Lingga, Natuna, Flachland von Borneo, Sumatra ?

## 3. *Collocalia linchi affinis* Beavan.

*Collocalia affinis* Beavan ex Tytler MS., *Ibis* 1867, p. 318 (Port Blair).

Oberseite wie *C. l. cyanoptila*, zuweilen etwas grünlicher; die dunklen Töne der Unterseite meist etwas bräunlicher.

Flügelänge in mm. :

Andamanen : 94\*, 95\*, 95·5\*, 96\*, 97\*, 97\*, 97\*, 97, 98, 98, 98, 98·5\*, 99\*, 99\*, 99, 99, 100\*, 100\*.

Nikobaren : 98 (Oh), 98 (Oh), 99 (Oh), 99 (Oh), 100 (Oh), 101 (Oh).

Verbreitung : Andamanen und Nikobaren.

## 4. *Collocalia linchi isonota* Oberh.

*Collocalia linchi isonota* Oberholser, l.c. p. 208 (1906—Luzon).

In der Färbung der Oberseite zwischen *C. l. linchi* und *cyanoptila* stehend, bläulicher als erstere, grünlicher als letztere.

Flügelänge in mm. :

Luzon : 100 (Oh), 100, 100·5 (Oh), 100·5, 101·5 (Oh), 103.

Verbreitung : Bongao, Luzon, Mindoro.

## 5. *Collocalia linchi oberholseri* subsp. n.

*Collocalia linchi linchi*, pt., Oberholser, l.c. p. 204.

Mr. Oberholser hat willkürlich angenommen, dass seine Stücke von den Pagi- (= Nassau-) Inseln, westlich von Sumatra, zur typischen Form gehörten; die von ihm angegebenen Flügelmasse weichen indessen so beträchtlich von

denjenigen typischer *C. l. linchi* ab, dass sie keinesfalls der gleichen Form an gehören und es mir erforderlich scheint, sie zu benennen, obgleich mir leider kein Stück vorliegt.

Die Kennzeichen sind nach Oberholser folgende: Oberseite ausgesprochen grünlich, einschliesslich der Schwingen und Steuerfedern, und mit nur geringem bläulichen Schimmer (also in der Färbung der Oberseite der typischen Form nahestehend).

Flügelänge: 103, 103·5, 104·5, 105, 105·5 (alle nach Oh).

Verbreitung: Nord-Pagi-Insel. Die von Oberholser angegebene "Übereinstimmung" eines Exemplares von Singapore ist wohl zufällig gewesen.

#### 6. *Collocalia linchi elachyptera* Oberh.

*Collocalia linchi elachyptera* Oberholser, *l. c.* p. 207 (1905—Bentineck-Insel im Mergui-Archipel)

"Ähnlich *C. l. affinis*, aber oberseits grünlicher, vornehmlich an Rücken, Schwingen und Steuerfedern" (Oberholser).

Flügelänge: 97, 98·5, 100, 100·5, 101 (alle nach Oh).

Verbreitung: Mergui-Archipel.

#### 7. *Collocalia linchi dodgei* Richmond.

*Collocalia dodgei* Richmond, *Smiths. Quart.* vol. ii, p. 431 (1905—Kina Balu).

Färbung der Oberseite etwa wie bei *isnota*: auf der Unterseite ist die dunkle Färbung weiter nach abwärts ausgedehnt als bei irgend einer anderen Subspecies. Ich kann Oberholser nicht beipflichten, wenn er diese Form spezifisch von *C. linchi* trennt, und betrachte sie vorläufig als eine Vertikal-Subspecies, die im Flachland von *C. l. cyanoptila* vertreten wird. Künftige Untersuchungen müssen indessen lehren, ob vielleicht alle zu dieser Gruppe gehörigen Collocalien N.W. Borneos sich als *dodgei* erweisen, und die beiden auf Borneo angetroffenen Formen sich nicht vertikal, sondern horizontal vertreten. Im Tring Museum befinden sich 2 Exemplare vom Kina Balu, von Whitehead im März 1887 oberhalb 3000 f. gesammelt, eines davon steht in der Schwingenmauser.

Flügelänge: 88,5 (Oh), 93.

Verbreitung: Gunung Kina Balu (N.W. Borneo), oberhalb 3000 f.

Asm.: Zahlen ohne Zusatz bedeuten: Ex. im Tring-Museum.

Zahlen mit einem \*: Ex. im British Museum.

Zahlen mit dem Zusatz Oh: nach Oberholser.

### XVIII. Die südlichen Formen von *Collocalia francica* (Gm.).

In der oben citierten Arbeit sucht Oberholser eine Aufteilung der Spezies *Collocalia francica* in weitgehendem Masse durchzuführen, als dies Hartert im *Tierreich* (Aves, I. Lieferung, 1897) getan hat, arbeitet jedoch mit ungenügendem Material. Die Folge ist, dass seine Subspecies-Diagnosen, die auf sehr wenige Stücke, mehrfach nicht von der typischen Localität, gegründet sind, sich in einigen Fällen als unzureichend oder falsch erweisen. Die Durchsicht der Sammlungen in Tring und London veranlasst mich daher zu einer kurzen Behandlung der südlichen Repräsentanten.

1. *Collocalia francica francica* (Gm.).

*Hirundo francica* Gmelin, *Syst. Nat.* vol. ii. p. 1017 (1788—Isle de France).

Flügelänge in mm.:

Bourbon: 114\*.

Mauritius: 112\*, 116\*.

*Verbreitung*: Bourbon und Mauritius.

2. *Collocalia francica spodiopygia* (Peale).

*Macropygia spodiopygia* Peale, *U.S. Expl. Exped. Orn.* p. 176, t. 49 (1848—Upolu, Samoa-Archipel).

Rücken etwas dunkler als bei der typischen Form, der Oberkopf dagegen heller, dunkel bräunlich mit grünem Reflex statt schwärzlich blau. Unterseite etwas dunkler.

Flügelänge in mm.:

Samoa-Archipel: 117\*, 117\*, 118\*, 119\*, 121\*.

*Verbreitung*: Samoa-Archipel.

ANM.: Der Name *Herse forsteri* Hartlaub (*J. f. O.* 1854, p. 169—Tahiti; nom. nov. pro *Hirundo peruviana* Forster) bezieht sich wahrscheinlich auf eine abweichende Form, von der mir indessen kein Material vorliegt, und mit der *Collocalia thespesia* Oberh. (1906—Tahiti) vermutlich synonym ist.

3. *Collocalia francica towsendi* Oberh.

*Collocalia francica towsendi* Oberholzer, *Proc. Ac. Nat. Sc. Philad.* vol. 58, p. 197 (1906—Tonga-Inseln).

In der Färbung ganz mit der vorigen Form übereinstimmend, aber durchschnittlich kleiner.

Flügelänge in mm.:

Tongainseln: 111\*, 112\*, 112\*, 112\*, 113\*, 115\*, 116 (Oh), 116,5 (Oh), 117 (Oh), 119\*.

*Verbreitung*: Tonga-Inseln.

4. *Collocalia francica assimilis* subsp. n.

Rücken und Unterseite etwas heller als bei den beiden vorhergehenden Formen und mit der typischen Form übereinstimmend; von dieser ist *C. fr. assimilis* indessen durch die dunklere Färbung des Oberkopfes und die durchschnittlich geringere Grösse wohl unterschieden.

Flügelänge in mm.:

Fidji-Inseln: 107\*, 108\*, 108\*, 108\*, 109\*, 109\*, 110, 110\*, 110\*, 110\*, 110\*, 111\*, 112\*, 112\*, 112\*, 113\*, 113\*, 113\*, 114\*, 114\*, 117.

Typus: sex ?, Fidji-Inseln, Sir Walter Buller coll., im Tring-Museum.

*Verbreitung*: Fidji-Inseln.

5. *Collocalia francica reichenowi* subsp. n.

Von der vorigen Form durch etwas dunklere Oberseite und geringere Grösse unterschieden.

Flügelänge in mm.:

Guadalcanar: 103, 106\*.

Neu-Mecklenburg : 101.

Neu-Pommern : 100 (nach Rehw.).

Typus. ♀, Guadalcanar 9. v. 1901, A. S. Meck coll. No. 3117, im Tring-Museum.

*Verbreitung* : Salomons-Inseln, Neu-Mecklenburg, Neu-Pommern ; S. O. Neu-guinea ?

Herr Geheimrat Reichenow hat in *Mitt. Zool. Mus. Berlin*, vol. i. No. 3, 1899, p. 80, auf die auffällende Kurzflügigkeit seiner Neu-Pommern-Stücke hingewiesen ; ich gestatte mir, die Form ihm zu Ehren zu benennen.

#### 6. *Collocalia francica terraereginae* (Rams.).

*Cypselus terrae-reginae* Ramsay, *P.Z.S.* 1874. p. 601 (Queensland).

Die helle Oberseite, deren Färbung ein mattes Graugrün mit geringen Reflexen ist, unterscheidet die australische Form von allen übrigen.

Flügelänge in mm. :

Nord-Queensland : 111, 111\*, 111\*, 112\*, 115\*, 116\*, 116\*.

*Verbreitung* : Nord-Queensland.

ANM. : *Collocalia infusata* Salvad. (Ternate) ist nach der Beschreibung (sehr dunkle Oberseite, Flügel 110 mm.) zweifellos von der australischen Form verschieden, gehört auch möglicherweise überhaupt nicht in diesen Formenkreis, sondern in den von *leucopygia*, die neuerdings durch den verstorbenen H. Kühn auf Burn, durch mich auf Ceram gesammelt wurde. Ob der Lauf seines Exemplares befiedert ist oder nicht, gibt Salvadori nicht an.—Die von Hartert in *Nov. Zool.* vol. iii. 1896, p. 175 als *Collocalia francica* aufgeführten und von Oberholser vermutungsweise zur Form *terraereginae* gestellten Jungvögel von Djampea sind offenbar unrichtig identifiziert worden, da sie befiederte Läufe haben.

---

NOTES ON *CLINOCORIDAE*, A FAMILY OF RHYNCHOTA,  
WITH THE DESCRIPTIONS OF A NEW GENUS AND  
SPECIES.

By KARL JORDAN, Ph.D., AND THE HON. N. CHARLES ROTHSCCHILD, M.A.

(Text-figs. 1—4.)

ON page 93 of the present volume we stated that four principal types of bristles are found in the *Clinocoridae*, and gave illustrations of these types. The most remarkable type is the one in which the convex side of the curved bristle appears denticulate in a lateral aspect. This kind of bristle is only found in the genera *Clinocoris* and *Oeciocus*, whereas the largest and most modified bristles of the other genera are only dentate at the apex. This difference in the bristles coupled with distinctions in the proboscis and sterna splits the family up into the following groups:

A. Subfamily **Clinocorinae** nov.

Proboscis at most reaching in between the fore-coxae. The large bristles broad, curved and denticulate on the convex side. Mesosternum broadly rounded posteriorly. Metasternum broader than the mid-femur, being as long as it is broad, and posteriorly rounded-truncate. Raised mesial portion of basal abdominal sternite hardly at all narrowed forward. Eighth abdominal segment of ♂ strongly asymmetrical.—Here belong the genera *Clinocoris* and *Oeciocus*.

B. Subfamily **Cacodminae** (Kirk. indescr.).

Proboscis at most reaching in between the fore-coxae. The large bristles dentate only at the tip, not on the convex side. Mesosternum subtriangular. Metasternum more or less lozenge-shaped or ovate, tapering forward, much longer than it is broad, about as wide as the mid-femur. Raised mesial portion of basal abdominal sternite narrowing anteriorly. Eighth abdominal segment of ♂ almost symmetrical.—Here belong *Cacodmus*, *Lacaspis*, and the new genus described below.

C. Subfamily **Haematosiphoninae** nov.

Proboscis extending beyond the mid-coxae. The large bristles curved, rather broad, dentate at the tip, but not on the convex side. Mesosternum rounded. Metasternum narrow. Raised mesial portion of basal abdominal sternite also narrow, anteriorly narrowing.—Here belongs *Haematosiphon*.

The *Clinocorinae* are further characterised by the scutellum, which bears a number of bristles resembling those of the pronotum and elytra, while the scutellum of the *Cacodminae* has only small hairs.



One of the two new species of *Cacodminae* described hereafter represents a distinct type for which it is necessary to erect a new genus. This new genus is distinguished from *Cacodmus* and *Loraspis* as follows :

1. *Cacodmus*: bristles long, most of the lateral ones of the pronotum longer than the first segment of the antenna. Tibiae without pseudo-joints. Second segment of proboscis longer than fourth.

2. *Aphrania* gen. nov.: bristles shorter than in *Cacodmus*, only a small number of the lateral ones of the pronotum longer than the first antennal segment. Second segment of proboscis shorter than fourth. Hind-tibia with distinct pseudo-joint, mid-tibia with indistinct one, and fore-tibia without pseudo-joint.— Genotype: *A. barys* spec. nov.

4. *Loraspis*: distinguished from the preceding genera by all the tibiae having a pseudo-joint and by the hind-tibia being much longer than the hind-femur.

***Cacodmus indicus* spec. nov. (text-figs. 1 and 2).**

♂ ♀. Much slenderer than *Cacodmus villosus* Stal (1873). The head exerted (text-fig. 1). The proboscis does not reach to the fore-coxa. The prothorax is



FIG. 1.—*Cacodmus indicus*.

broadest in front of the centre, the sides being rounded, though less strongly so than in *C. villosus*. The anterior angle of the prothorax does not project so much as in that species, and the explanate margin is much narrower. The hairs of the prothorax are long, those placed at and near the lateral margins being much longer than the diameter of the eye, as is indicated in the figure. The elytra are almost twice as broad as they are long, and the bristles they bear are about as long as those of the prothorax. The abdomen is densely covered with long bristles, which form six or seven very irregular transverse rows in the centre of the tergites and are even more numerous laterally. Many of the lateral bristles are as long as or

longer than a segment. On the under side of the abdomen the hairs are much smaller than on the upper, being placed in about five rows on the central segments and all ending in a long thin point as in ordinary bristles.



FIG. 2.—Hind-tarsus of *Cecodmus indicus*.

FIG. 3.—Hind-tibia and -tarsus of *Aphrania barys*.

The proportional lengths of the femora and tibiae in the three pairs of legs are :

♂. 42 : 38—42 : 42—46 : 52 ;

♀. 44 : 42—45 : 46—52 : 57.

All the tibiae have an apical tuft of hair in both sexes. The tibiae are nearly straight, their outer surface being gently convex at the base and apex, and the inner side slightly convex in the proximal half, and feebly but visibly incurved in the distal half. The bristles of the tibiae are very numerous, being more numerous and smaller on the under surface than on the upper (*i.e.* the surface which is the

“upper” in a specimen mounted on a slide with the legs pressed down). In the ♂ the mid-tibia bears on the under side a short, stout and blunt apical spine, and the hind-tibia two such spines, while in the ♀ both these tibiae have two spines. The apical bristles of the upper surface (text-fig. 2) are somewhat thicker than the other bristles. The tarsi are slender, being especially characterised by the first segment (text-fig. 2) bearing a short, thin, pointed subapical ventral bristle and near it a long and slender one.

The ♂ organ of copulation does not quite reach to the centre of the seventh sternite; its apex is rounded off, not sharply pointed, and, when the organ is lying in the groove, curved frontad.



FIG. 1.—*Aphrania barys*.

Length (labrum excl.): ♂ 3.6 mm., ♀ 4.4 mm.

Width of pronotum: ♂ 1.1 mm., ♀ 1.3 mm.

Width of abdomen: ♂ 1.8 mm., ♀ 2 mm.

The immature specimens which we have bear very few bristles as compared with the adult examples, but can be recognised as belonging to this species by the long bristles being funnel-shaped at the tip, and the first tarsal segment bearing two slender bristles ventrally near the apex.

We have 1 ♂ and 2 ♀♀ from Khandala, Bombay Presidency (26. iv. 1911), and two immature specimens from the same place, found in November 1911 on a bat, all collected by Prof. F. Assmuth.

***Aphrania barys* spec. nov. (text-figs. 3 and 4).**

♂. The general facies of this species is almost the same as in the preceding one. But the bristles are obviously shorter and less numerous, the prothorax is

much less rounded at the sides (text-fig. 4), and the elytra are distinctly longer than in *H. indicus*. On the pronotum there is a fairly large space at each side of the median line devoid of bristles. The bristles of the tibiae are also less numerous and shorter than in *H. indicus*, and more or less arranged in rows. All the tibiae are more distinctly incurved on the inner side before the apex in the region where the hind-tibia bears a distinct pseudo-joint (text-fig. 3). The mid-tibia has one thick obtuse apical spine on the under side and the hind-tibia two. The first tarsal segment bears ventrally before the apex a thin bristle and a short and stout spine (text-fig. 3). The proportional lengths of the femora and tibiae are as follows :

♂. 47 : 48—49 : 50—52 : 62.

The ♂ organ of copulation extends on to the apex of the seventh sternite, while the groove in which it is situated reaches to about the centre of the segment. The tip of the organ is pointed and, in a rest position, slightly curved anad.

Length (labrum excl.) : 4·4 mm.

Width of pronotum : 1·2 mm.

Width of abdomen : 2·2 mm.

Five ♂♂ in the British Museum from Masera, Basutoland, collected by Mr. L. Wroughton.

---

## ON SIPHONAPTERA COLLECTED IN ALGERIA.

BY K. JORDAN, Ph.D., AND THE HON. N. CHARLES ROTHSCHILD, M.A.

(Plates VI.—XII.).

DURING the spring of the present year (1912) the Hon. L. W. Rothschild and the senior author of this paper again paid a visit to Algeria, chiefly with a view to collecting Lepidoptera. As the British Museum had hardly any small mammals from the coast district and the Central Plateaux, and as, moreover, very little was known of the Siphonaptera of Algeria, some time was devoted during the visit to collecting mammalia and their ectoparasites, with the result that 160-odd skins belonging to 16 species were brought home, as well as a fairly large number of fleas and other parasites.

The collections were made in four localities—Alger, Hammam Rirha, Guelt-es-Stel, and Khenchela—the first two places being situated in Northern Algeria and the other two on the Central Plateaux. The strong physiographical contrast which exists on the one hand between the northern district of Algeria (i.e. the coast inclusive of the northern mountain ranges) and on the other the high plains which are the centre of the country, and extend from west to east, has produced, as is well known, also most striking contrasts in the fauna and flora. The coast district is characterised by a good supply of water, luxuriant vegetation, cornfields and vineyards, the mountains being clad with forest. The mammals and fleas obtained at Alger and Hammam Rirha are identical, and from the look of the country we presume that the same species extend southward to the northern borders of the central plains as far as the same conditions of life prevail—to the neighbourhood of Boghari, for instance. The traps intended for shrews and rodents (to be caught alive) were placed under the rank vegetation at the edges of fields and meadows and in the hedges. The neighbourhood of Alger being much frequented, it was not always easy to find places where the traps were safe from interference. As the traps, however, can be entirely covered up, and as also the butterfly net distracted the attention of the Arabs who might happen to be looking on from a distance, few traps were stolen. The chief hunting grounds near Alger were the large garden of Mrs. Beresford,\* opposite Hôtel Alexandra, the valley of the Femme Sauvage, and the fields between Birmandreis and the Château Hydra. The best places at Hammam Rirha were the roadsides and fields at the back of the Grand Hotel. The number of species collected is very small. The absence of the mole and all *Arvicolidæ* from Algeria is interesting, as these mammals are not particularly rare in South Portugal. The various mammals were kindly named for us by Mr. Oldfield Thomas, F.R.S.

## I. ALGER AND HAMMAM RIRHA.

1. *Crocidura russula* is quite common in places which are kept damp by the rank vegetation. I obtained more specimens of this shrew than of any other

\* We express our thanks also in this place to Mrs. Beresford for the very kind permission to trap in her garden, where the following species were obtained: *Crocidura russula*, *Arviculthis barbarus*, *Mus algirus*, *Mus alexandrinus*, and *Apodemus sylvaticus*.

mammal, with the exception of *Mus algirus*. It was the only species found close to the edge of the brook called La Femme Sauvage. Shrews go into a trap of our construction whether it is baited or not. They run into the dark cavity and, being of a worrying nature, try to get out at the closed end, and thus accidentally spring the trap. At Hammam Rirha the species is most frequent under the rank vegetation of the roadsides at the back of the hotel garden. No *Sorex* was met with.—K. J.

2. *Mus alexandrinus*.—A half-grown specimen was trapped in Mrs. Beresford's garden and another under a hedge near the Palace Hotel. According to the manager of the Grand Hotel at Hammam Rirha, rats are plentiful in the cellars of the hotel.—K. J.

3. *Mus musculus*.—The few specimens trapped in a house at Mustapha Supérieur did not differ in colouring from ordinary European examples, and their smell was just as bad. No fleas were found on them. At Hammam Rirha a few *musculus* were obtained in the fields at a considerable distance from the nearest house. These specimens also were at once recognised by their smell when the trap was inspected.—K. J.

4. *Mus algirus*.—This is the field mouse in Northern Algeria, and by far the commonest of all the rodents in that district, though it is less in evidence than *A. barbarus* on account of its small size. It is found in the gardens and everywhere at the roadsides, the edges of fields, and along walls constructed of rough stones. Although it resembles in general appearance *Mus musculus*, it is at once distinguished by the absence of the nauseous smell characterising *M. musculus* and by the much shorter tail.—K. J.

5. *Apodemus sylvaticus* is likewise common in the gardens and fields, frequenting the same places as *M. algirus*.—K. J.

6. *Arvicanthus barbarus*.—This was the first time that I met with the Barbary rat at large. This pretty striped rodent occurred in the gardens and in much larger numbers in the fields near Alger as well as at Hammam Rirha, and is restricted to the northern district of the country. The natives on the High Plateaux did not know it—a sure sign that this conspicuous rodent does not occur there. It appears to be partial to corn-fields, at the edges of which most of our *barbarus* were obtained.

At Hammam Rirha I also found the nest of the Barbary rat at a spot where I had trapped a female which was in milk. When going by the place the next day I heard a rather loud chirping in the barley-field. I followed the sound, expecting to find a nest with young hungry birds, and was rather surprised to see, after some minutes' search, a small blind *A. barbarus* at my feet, and a short distance away a second, both crying incessantly. The nest was close by. It consisted of dry grass, and was made in a slight depression of the ground, being dome-shaped with a side-entrance, but altogether very loose and irregular in structure, looking more like a handful of short hay than a properly made nest. There were apparently only these two babies. Several females when opened were found to contain from four to six embryos. The Barbary rat is said to be quite common in the summer. Apart from the trapped specimens I only once saw it at large, and that in day-time. I had apparently disturbed it when feeding, and it ran along a field-path much as a rat runs, not jumping like *Apodemus sylvaticus*.

The skin of *A. barbarus* is thick, but also very tender, particularly on the head, and it is not advisable to kill the specimens by throwing them on to the ground or knocking them against a hard surface, as one can safely do with *M. algirus* and

*A. sylvaticus*. When skinning a specimen, pulling and pressing must be avoided. The hair is smoother in young specimens than in older ones, and their striping therefore more regular.—K. J.

7. *Dipodillus campestris*.—At Alger I only caught two specimens, both adult, in the fields between Château Hydra and Sidi-Yaya, and saw a third in day-time cross a main road, jumping like *Apodemus sylvaticus*. I did not meet with the species at Hammam Rirha, where, however, our short stay was marred by bad weather, and trapping only done to a limited extent.—K. J.

## II. GUELT-ES-STEL.

This place is situated between Boghari and Djelfa, in the centre of the High Plateau. As the time was limited the natives were asked to bring in mammals alive, and thus we received quite a number of specimens. But, as is generally the case under such circumstances, the result in Siphonaptera was not proportionate. If a mammal is caught by hand, or handled a good deal, the fleas leave it, as we have noticed ourselves at home with mice and moles treated in that way. However, some nests of mammals were also brought in with the young, and these gave better results. We examined about two dozen live *Elephantinus rozeti*, which is fairly frequent among the rocks, but did not find a single flea on them. The commonest mammal on the High Plateau is undoubtedly *Meriones shawi*, whose burrows are found everywhere under the *Zizyphus* bushes. I put out a number of traps in places where *Crocidura* might possibly occur, but did not find a single specimen. The range of hills in which Guelt-es-Stel lies offers many localities physiographically different, and may well be worth exploring for a collector of mammals.

## III. KHENCHELA.

The town of Khenchela is situated at the eastern extremity of the Aurès Mountains in East Algeria. It is the terminus of the railway crossing the plain of the Haracta tribe from Ain-Beïda southward. We did not collect many mammals, as our time was fully occupied with the Lepidoptera, which were very abundant. Besides *Jaculus orientalis* and the inevitable *Meriones shawi* which the natives brought in, I trapped the following:

1. *Crocidura russula*. In the valley east of the town there is a plentiful supply of water—a deep brook running north, which contains a good amount of clear water even in the height of the dry season, and turns into a river during the rainy season. In the luxuriant vegetation of this valley *russula* appeared to be fairly abundant.—K. J.

2. *Mus algirus* was obtained in the same valley in small numbers.—K. J.

3. *Mus musculus* was apparently common in the town, and we also trapped it some distance away in an old *Meriones* burrow, and among the ruins of a small house.—K. J.

4. *Dipodillus campestris*, in a paler form than the one collected at Alger, was found in traps set under rocks and thorn-bushes, and a pregnant female was obtained in a trap put into a fresh burrow made under a tuft of halfa grass. A young specimen was observed late at night when I returned from moth-collecting. It jumped like an *Apodemus sylvaticus*, for which I mistook it; but when I had

knocked it over with my cap the more hairy tail at once proved it to be a *Dipodillus*.

Four of the seventeen species of mammals which we collected in Algeria did not yield any fleas—namely, two species of bats (out of three), the Hedgehog, and the Elephant-shrew. On the other thirteen species we found thirteen different kinds of fleas, of which five are new species and one a new subspecies. We did not obtain *Pulex irritans*, *Ctenocephalus canis* and *felis*, and *Ceratophyllus gallinae*, nor *Leptopsylla musculi* and *Ceratophyllus fasciatus*, which all undoubtedly occur in the coast district, if not farther inland. We found only a single species of bird-flea, which is a new subspecies, although we examined a number of nests of various kinds. What surprised us most was the absence of fleas in the sparrows' nests which we took from under the roof of the Bordj at Guelt-es-Stel, some of them being large nests which had apparently been used for years, and which in England would have been full of *fringillae* or *gallinae*. For the purpose of collecting mammals and fleas in Algeria (or elsewhere) the summer would be a more suitable time than the spring, as then both the mammals and their parasites are more plentiful, and the fleas in birds' nests have had time to breed and accumulate. At Khenchela we had sparrows' nests taken down from poplar trees, these nests also proving empty of parasites.

Although fourteen different kinds of Siphonaptera\* is a very small number for such a large and varied country as Algeria, and certainly represent much less than half the species which occur there, the collection is of some general interest as regards the distribution of the Siphonaptera.

The most striking fact which can be gathered from looking over the list of captures is the entire absence of those species on the Hauts Plateaux which we found at Alger and Hammam Rirha, and vice versa. However, further search on *Dipodillus campestris*, which we may assume has a flea of its own, may possibly lead to the discovery of a species living on the dark coast race as well as on the lighter-coloured races of the High Plateaux, and the martins' nests may harbour the same species in the Northern districts as on the central plains, and the same may be the case with other mammals, and especially birds.

A further point worthy of being mentioned is the absence of the genus *Xenopsylla* from the coast districts, while this tropical and subtropical genus is abundant on the High Plateaux, and, as we know from other sources, also in the Sahara. The now almost cosmopolitan *X. cheopis* occurs, at least occasionally, on rats in the coast districts (cf. foot-note below).

The rest of the collection is a curious mixture of forms with either Palearctic or Tropical affinities. While, however, four of the species are also found in Europe, none are identical with tropical forms, apart from *Xenopsylla*. *Ceratophyllus lacvani*, found on the Hauts Plateaux, *Typhloceras poppei* at Alger, and *Stenoponia tripectinata* as well as *Ischnopsylla unipunctinata* from the Hauts Plateaux, occur likewise in Europe, while three other species or subspecies are nearest to European forms, and four nearest to species from Egypt or Tropical Africa. On the whole, the Tropical affinities are predominant in contradistinction to other groups of

\* To this number a few other species must be added which were collected by the Hon. L. W. Rothschild and Dr. E. Harten on former visits to Algeria in the neighbourhood of Biskra—namely, *Parodontia ruggenbachi* Roths. (1904), *Archaeopsylla crinacci mauryi* Jord. & Roths. (1911), and *Cuenopsylla nigra* Roths (1909). Moreover, Billot records *cheopis, musciv.*, *fasciatus* and *canis* from rats taken at Alger, Philippeville, Bone and Constantine (*Bull. Soc. Path. Exot.* 1. 2. (1908) p. 111).



insects, and it strikes us as particularly interesting that the new *Ctenophthalmus* and the new *Leptopsylla*, both occurring at Alger and Hammam Rirha, are closely allied to species from Tropical Africa.

### 1. *Xenopsylla cleopatrae* Roths. (1903).

*Pulex cleopatrae* Rothschild, *Ent. Mo. Mag.* (2) xiv. p. 84. no. 3. tab. 1. fig. 7, 8. tab. 2. fig. 13. 17 (1903) (Shendi, Sudan).

4 ♂♂, 4 ♀♀ from Guelt-es-Stel, off *Meriones shawi*, April 22 and 23, 1912.

1 ♀ from Guelt-es-Stel, off *Ictonyx libya*, April 24, 1912.

### 2. *Xenopsylla chersinus* Roths. (1906).

*Pulex chersinus* Rothschild, *Entom.* xxxix. p. 75. tab. 4. fig. 1-3 (1906) (Khartum).

1 ♂ from Guelt-es-Stel, in a nest of *Dipus orientalis*, April 22, 1912.

1 ♂, 1 ♀ from Guelt-es-Stel, off *Meriones shawi*, April 23 and 24, 1912.

5 ♀♀ from Biskra, off *Dipus* spec., March 1908, collected by J. Steinbach.

The species was described from a single ♂, and the present two ♀♀ are the only examples which have come to hand since. They are distinguished from *X. nubicus* particularly by the bristles of the outer process of the clasper being all situated at or near the apex. One of the two Algerian ♂♂ differs from the other as well as from the type-specimen in the smaller number of subapical bristles on this process.

The ♀♀ are so close to those of *X. nubicus* and *X. astia* that we cannot at present distinguish them with absolute certainty. The receptaculum has the same shape in the three species. The bristles of the hind-tarsi are rather longer in *chersinus* than in the other two species.

### 3. *Xenopsylla ramesis* Roths. (1904).

*Pulex ramesis* Rothschild, *Entom.* xxxvii. p. 2. no. 2. tab. 1. fig. 3 (1904) (Lower Egypt).

3 ♂♂, 3 ♀♀ from Guelt-es-Stel, off *Meriones shawi*, April 21 and 22, 1912.

4 ♂♂, 2 ♀♀ from Khenchela, off *Meriones shawi*, May 7 and 10, 1912.

### 4. *Ceratophyllus barbarus* spec. nov. (Pl. VI. figs. 1 and 2).

♂♀. Both sexes are very close to *C. fasciatus* Bosc. (1801), differing only in the modified abdominal segments. Although the differences are not very striking, they appear to be constant, inasmuch as they are present in all the specimens of our long series of *barbarus*.

The finger of *barbarus* (Pl. VI. fig. 1, F) is one-sixth shorter than in true *fasciatus*, and the two large bristles placed at its distal margin have a distinctly more ventral position in *barbarus*, the lower one placed exactly in the middle of the finger or a trifle below it in *barbarus* and above the centre in *fasciatus*, the distances being measured in straight lines from the socket of the lower long bristle of the clasper to the median bristle, and from there to the

tip of the finger. The process of the clasper (Pl. VI. fig. 1, P) is more rounded than in *fasciatus*, and its distal angle less sharp.

The seventh abdominal sternite of the female of *barbarus* varies to some extent, as illustrated by Pl. VI. fig. 2. As a rule, the apical margin of this segment is distinctly notched below the upper angle, this angle being sometimes produced into an obtuse lobe; but in some specimens the notch is almost entirely effaced, the apical edge of the sternite being feebly bi-emarginate with the rounded upper angle slightly projecting. In *fasciatus* the seventh sternite is never notched and its upper angle never projects. The small bristles situated above the stigma of the eighth tergite are more numerous in *fasciatus* than in *barbarus*.

The slightness of the distinctions between *fasciatus* and *barbarus* suggests that the two forms originally were geographical varieties of one species—i.e. that *barbarus* was the North African race and *fasciatus* a European race of one single species.

*C. fasciatus*, apart from the specimens obtained from rats, appears to us to be geographically variable in Europe to some extent, as we hope to show in another place.

*C. alludinis* Roths. (1904), from tropical India, is another form very closely allied to *fasciatus*.

A large series of *C. barbarus* were obtained at Alger and Hammam Rirha on *Arvicantis barbarus*, and also a small number of specimens at the same places on *Apodemus sylvaticus* and *Mus algirus*, but not one specimen on *Crocivara russula*.

##### 5. *Ceratophyllus laverani* Roths. (1911) (Pl. VIII. fig. 6).

*C. L.* Rothschild, *Ann. Sci. Nat. Zool.* p. 209, text-fig. 1 and 2 (1911).

5 ♀♀, Guellet-es-Stel, off *Eliomys quercinus*, April 19, 23, and 25, 1912.

1 ♂, Guellet-es-Stel, off *Meriones shawi*, April 25, 1912.

The occurrence on *Meriones* is no doubt accidental. The natives brought us a small number of young *Eliomys*, some tucked away in their burnouses, and also many specimens of *Meriones*, so that it is quite possible that the *laverani* got on to the *Meriones* after the *Meriones* was caught. Our text-fig. 3 is taken from an Algerian example. We do not notice any difference between European specimens of *laverani* and these Algerian ones, which is evidence in support of Mr. Oldfield Thomas's view that the specimens of *Eliomys quercinus* from the High Plateaux of Algeria do not differ from European examples.

##### 6. *Ceratophyllus maurus* spec. nov. (Pl. VII. fig. 3, 4, and 5).

♂♀. Nearest to *C. henleyi* Roths. (1904), from which it is easily distinguished by the modified abdominal segments. Both species are characterised by one or two of the apical bristles of the second hindtarsal segment extending beyond the fourth segment, the fore-femur bearing several small lateral bristles on the outer surface, and the mid- and hind-coxae having less than ten bristles on the inner surface (apart from the bristles placed at the anterior margin of the coxae). A combination of these three characters occurs only in *henleyi* and *maurus* of all the species of *Ceratophyllus* known to us. The males of *maurus* and *henleyi*, moreover, bear a mane on the thorax and proximal abdominal segments.

*Head.*—The frons is much more convex in the ♂ than in the ♀, and bears in both sexes a row of three bristles in front of the eye. The upper one of these bristles is placed about on a level with the centre of the eye, and is long; the second bristle is much smaller, while the third is about as large as the first. In the ♂ there are two more bristles above the first eye-bristle, both being thinner and shorter than the second anteocular bristle. The occiput bears one median bristle above the antennal groove, no bristle behind that groove, and a subapical row of five. The ventral bristle of this row is very long and accompanied below by an additional bristle, which is in the ♂ as small as the small hairs placed along the antennal groove, whereas it has in the ♀ the size of the upper subapical bristles. There is a wide gap between the long subapical bristle and the one above it. The rostrum reaches to the trochanter.

*Thorax.*—The pronotum bears a row of thirteen or fourteen bristles on the two sides together, the ventral bristle being very long and the two dorsal ones slightly more proximal in position than the others, particularly in the ♂, which sex, moreover, has two or three small dorsal bristles in front of the row. The comb contains nineteen to twenty-two spines and an additional small spine on each side. All the spines end in a sharp point. The mesonotum has two rows of bristles and a number of dorsal bristles from the anterior row to the base, as well as a row of minute hairs along the basal edge. In the ♂ the dorsal bristles of the meso- and metanotum, and of the first and second abdominal tergites are semi-erect, and, being more numerous and longer than is usual in *Ceratophylli*, represent a mane (Pl. VII. fig. 4). The small hairs near the anterior edge of the mesopleura are numerous, the ♂ bearing about a dozen or more and the ♀ usually more than eighteen. The mesonotum has about a dozen setiform subapical spines on the inside and the metanotum four or five short, thick apical spines, on the two sides together. The metepimerum has five to seven bristles (2 or 3, 2 or 3, 1).

*Abdomen.*—The first three or four tergites bear a few short apical spines, and tergites i. to vi. are dorsally minutely dentate. The first tergite has two complete rows of bristles, and in the ♂ some additional dorsal bristles. On the tergites iii. to vii. the anterior row is much reduced in both sexes, but especially so in the ♂. The stigmata are placed some distance in front of the ventral bristle of the posterior row. The ♂ has two antepygial bristles on a rather strongly produced cone, the upper bristle being short and obtuse and the lower one long. In the ♀ there are three antepygial bristles, of which the dorsal one is two-fifths and the ventral one five-sixths the length of the central bristle. The sternites of segments iii. to vi. bear on the two sides together eight or nine bristles in the ♂ and on an average eighteen in the ♀.

*Legs.*—All the femora have a single subapical ventral bristle on the outside, the fore-femur in addition a number of small hairs on the lateral outer surface, while the mid- and hind-femora bear a row of bristles on the inside. This row contains on the hind-femur six to nine bristles, apart from the subapical ventral one. The hind-tibia has a row of four to six lateral bristles on the inside, and a row of five to seven (inclusive of the apical one) on the outside. One apical bristle of the first hind-tarsal segment reaches to the apex of the second segment, one of the second segment to the apex of the fourth segment and another beyond it. The proximal pair of bristles of the fifth tarsal segment is distinctly moved on to the ventral surface, but is situated proximally to the second pair, not in between it. The relative lengths of the mid- and hind-tarsal segments are as follows:—

Mid-tarsus : ♂ 19, 18, 11, 9, 17 ; ♀ 24, 21, 12, 9, 18.

Hind-tarsus : ♂ 48, 30, 17, 10, 18 ; ♀ 51, 33, 18, 11, 19.

*Modified Segments.*—♂. The eighth tergite has an irregular row of small bristles from the lower end of the stigma upwards. The widened apical portion of this segment has four or five bristles at the upper edge and four to six on the side. The clasper (Pl. VII. fig. 3) has a straight manubrium (M) with the apex rounded. The process (P) of the clasper is broad and short. The two bristles placed near the insertion of the finger (F) are thinner than the largest bristles of the eighth tergite. The movable process F greatly widens from the base upwards, being broadest beyond the centre. Its proximal edge is almost straight, apart from a central angle, while the distal margin is strongly convex beyond the centre. The oblique upper portion of the distal margin is notched in the middle and bears a moderately large bristle between this notch and the upper proximal angle. Besides this bristle there are only a few very slender ones and some minute hairs on the finger. The ninth sternite (Pl. VII. fig. 3, ix. st.) is of the type found in *C. fasciatus* and allies. The proximal lobe of the exopodite of this segment bears two short strong spiniform bristles.

♀. The seventh sternite varies in outline to a considerable extent, but its apical margin is always evenly incurved, as shown in the figure (Pl. VII. fig. 5); the upper angle is either pointed or more or less rounded off, and sometimes hardly projects as a lobe. The eighth tergite has numerous small bristles above the stigma, and two to four long ones below it accompanied by one or two small ones. On the widened ventral portion of this tergite there are eight bristles along the ventral and apical edge on the outer surface, six or seven long lateral ones, and seven to fifteen small lateral bristles placed proximally to the long ones.

A series of both sexes was obtained, as follows :

17 ♂♂, 20 ♀♀, from Khenehela, off *Meriones sharvi*, May 1912.

2 ♂♂, 4 ♀♀, from Guelt-es-Stel, off *Jaculus orientalis*, April 1912.

One of the Khenehela ♀♀ is a very interesting aberration, inasmuch as it throws light on the phylogenetic development of the bristles of the fifth tarsal segment. In the genus *Ceratophyllus* this segment bears five pairs of ventral lateral bristles, of which the first pair is frequently placed on the ventral surface and sometimes even in between the second pair of bristles. Some genera not very distantly related to *Ceratophyllus* were originally chiefly separated from one another on account of the development of the plantar bristles. *Neopsylla*, for instance, was based by Wagner mainly on the fifth hind-tarsal segment bearing only four pairs of lateral bristles. The presence, absence, and position of the first pair of these bristles are therefore considered to be of important taxonomic value. Now, in the specimen of *C. maurus* referred to above, all the tarsi have only four pairs of plantar bristles, as in *Neopsylla*, with the exception of one mid-tarsus which has retained one bristle of the proximal pair lost in the other tarsi.

#### 7. *Ceratophyllus henleyi mauretanicus* subsp. nov. (Pl. VIII. fig. 7 and 9).

♂♀. The specimens from Southern Algeria differ slightly, though perceptibly, from those which we have from Egypt, and which are *C. henleyi henleyi* Roths. (1904). The eighth tergite of the ♂ of *C. h. henleyi* bears six bristles along the upper margin and eight or more on the side. In *C. h. mauretanicus* (Pl. VIII. fig. 7) there are four bristles and a hair at the margin, and four to six at the sides, of which

two or three are small. The seventh abdominal sternite of the ♀ varies in both subspecies individually, but there is an obvious difference in the shape of this segment in the two subspecies. The sinus of the segment is shallow and the lobe above it short and broad in *C. h. henleyi* (Pl. VIII, fig. 8, a and b), while in *C. h. mauritanicus* the sinus is deeper, the upper lobe longer and the lower lobe (in side-view) also longer and much more pointed (Pl. VIII, fig. 9, c and d).

The modified segments do not seem to present any other differences. We add that in our original figure of *henleyi* (*Entom.* 1904, pl. 2), the third bristle of the "finger" counted from the apex is rather too long.

We have of *mauritanicus* :

1 ♂, 1 ♀, from Khenchela, off *Dipodillus campestris*, May 8 and 9, 1912.

1 ♂, 1 ♀, from Biskra, off *Meriones shawi*, March 1908, collected by J. Steinbach.

#### 8. *Ceratophyllus farreni meridionalis* subsp. nov. (Pl. IX, fig. 10).

♀. The three Algerian specimens, all females, which we have of *C. farreni* differ from the British examples in the shape of the seventh abdominal sternite. The sinus of this sternite is less deep and also narrower than in *C. farreni farreni*, and the lobes broader. In British specimens the sinus extends more or less close to the row of long bristles, one of the bristles often standing at the edge of the sinus, while in *C. farreni meridionalis* the distance of the apex of the sinus from the nearest bristle equals at least half the depth of the sinus (Pl. IX, fig. 10). We figure for comparison a specimen from Scotland (Pl. IX, fig. 11).

3 ♀ ♀, from Guelt-es-Stel, taken from nests of *Chelidon urbica meridionalis*, April 24 and 25, 1912.

This is the only bird-flea which we met with. The chief interest attaching to *C. f. meridionalis* lies in the fact that its difference from the northern form confirms the subspecific distinctness of the Algerian *Chelidon urbica*.

#### 9. *Ctenophthalmus russulae* spec. nov. (Pl. X, fig. 12 and 13).

♂ ♀. Near to *Ct. ansorgei* Roths. (1907), *triodontus* Roths. (1907), and *engis* Roths. (1907), all from tropical Africa, but at once distinguished from all three by the occiput bearing in the middle a single bristle placed above the antennal groove instead of a row of bristles.

*Ct. ansorgei* was originally described from two ♀ ♀\*. We now possess the ♂ from the same place and host, and the genitalia of this sex prove that we were right in placing *ansorgei* near *Ct. caucasica* Tisch. (1880). All these species have three genal spines, the eye vestigial, the posterior apical bristle of the labial palpus long and strongly curved forward, the subapical ventral bristle of the hind-femur short and spiniform, and the fifth tarsal segment provided with three lateral ventral pairs of bristles, with an additional pair on the ventral surface in between the first pair.

*Head.*—The frons bears an anterior row of five bristles and a posterior row of three long ones. The vestigial eye is less pigmented than in *C. ansorgei*. The first spine of the genal comb is sharply pointed. The occiput bears a row of four bristles

\* In *Nov. Zool.* 1907, p. 330 and 331 the figures of *Ct. ansorgei* and *Ct. triodontus* have been transposed: fig. 2 is *triodontus* and fig. 1 *ansorgei*, and not vice versa. The same has happened with the outlines of these figures reproduced on Plate 3 of the *Ent. Mo. Mag.* 1907.

running from the vertical part of the antennal groove across the pale lateral (sensory) dot towards the posterior dorsal pale dot. The two anterior bristles of this row corresponded to the anterior row of *ansorgei*, and the two posterior ones to the upper bristles of the second row found in that species. Above the antennal groove there is one long median bristle. The subapical row contains four bristles on each side, the interspace between the first and second being large.

*Thorax.*—The prothorax bears a row of nine long bristles on the two sides together, the row of the meso- and metathorax containing nine or ten bristles. The prothoracic comb consists of fifteen to seventeen spines. The metepimerum bears usually five bristles (2, 3), there being rarely an additional, small bristle present in the anterior row.

*Abdomen.*—The bristles of the abdomen are a little less numerous than in *ansorgei*, the postmedian row of the central tergites containing usually twelve, rarely thirteen long bristles. The difference in the number of bristles is especially noticeable on the modified segments viii. to x. in the ♂ and vii. to x. in the ♀.

*Modified Segments.*—♂. The eighth tergite bears on each side two or three small bristles above the stigma. The eighth sternite has a row of four or five long bristles, and proximally to the row three to five smaller bristles. The dorsal outline of the sensory plate (pygidium) is almost straight, the pygidium not being convex in this sex. The anal tergite is very little longer than the pygidium and bears, on the two sides together, seventeen small bristles besides two longer apical ones. The clasper is distally divided by a narrow rounded sinus into two short rounded lobes (Pl. X, fig. 12), of which the upper one (P<sup>1</sup>) bears two very long and three much shorter and thinner bristles. Below the lower process (P<sup>2</sup>) there is one long bristle at the edge of the clasper. The manubrium (M) is narrowed quite gradually to a sharp point and evenly curved, the point being directed upwards. The general appearance and structure of the movable finger (F) are essentially as in *Ot. caucasica* (and *ansorgei*), but the finger is much broader and shorter than in *caucasica*. It bears about a dozen short bristles at the dorsal edge, three at the apex and four at the ventral margin. The ninth sternite (ix. st.) has a rather slender vertical arm, whose apex, however, is much widened, as shown in the figure. The horizontal arm is boat-shaped in a lateral aspect and bears many small bristles in the distal half.—♀. The seventh sternite (Pl. X, fig. 13, vii. st.) is divided by a narrow sinus into a very broad truncate-emarginate upper lobe and a small lower one, and bears a row of four or five bristles and proximally to it three or four smaller ones. These bristles vary in size, but the two below the sinus always remain large. The eighth tergite has no bristles above and below the stigma, in which character the present species agrees with *triodontus* and *cugis*, while *ansorgei* and *caucasica* have some small bristles above the stigma. The ventral portion of the eighth tergite bears a ventral row of five bristles, of which the apical one is stout and short and the third the longest. Above this row there are three or four more bristles, the proximal ones being small and the distal one large, the latter being placed above the second of the ventral row. On the inner surface there is a cluster of four or five small bristles before the apex. The apical angle of this tergite is rounded off. The pygidium is convex as in the ♀♀ of the allied species. The anal tergite is distinguished by bearing a row of three lateral bristles proximally to the stylet, the above-mentioned African species as well as *caucasica* having only the ventral bristle of this row. The stylet is conical and about thrice as long as it is broad at the base. The anal

sternite bears four bristles on each side, these bristles being slenderer than in the species named above, particularly the first and second bristles.

Length: ♂ 8—2 mm., ♀ 2—2.4 mm.

We obtained a series of both sexes at Alger in March, April, and May 1912, also some ♀♀ in May 1908—altogether 18 ♂♂ and 27 ♀♀. Most of the specimens were found on *Crocidura russula*, and a few on *Mus algirus* and *Apodemus sylvaticus*, and one on *Gerbillus campestris*. The occurrence on the last three hosts is doubtless accidental. Although we obtained a number of *Crocidura russula* at Hammam Rirha, as well as many *M. algirus* and *A. sylvaticus*, the present species of flea was conspicuous by its absence.

### *Rhadinopsylla* gen. nov.

♂♀. Frons without tubercle, or this quite external, not placed in a groove. Antennal groove completely closed above, there being no sulcus across the vertex and the internal incassation only being vestigial. A genal comb of five spines. Eye barely traceable. Labial palpi with five segments, the last segment posteriorly with a curved apical bristle as in true *Ctenophthalmus*. Pronotum with comb. Episternum of metathorax prolonged downwards, hind edge of sternum shortened; epimerum of metathorax narrower and dorsally more rounded than in *Ctenophthalmus*, very densely striated above the ventral margin; its stigma much more frontal than in the allied forms, being placed nearly half-way between the oblique upper edge and the anterior edge of the metepimerum. Metanotum without the short strong apical spines found on the proximal abdominal tergites, but with minute teeth. No antepygial bristles in the ♂, but two on each side in ♀, both being long. Pygidium strongly convex in both sexes. Legs slender, particularly the femora. Basal internal rod of mid-coxa broad, bearing a mesial carina and therefore somewhat recalling a shoulder-blade, the corresponding rod of the hind-coxa narrow and quite short. Hind-coxa with a patch of short spiniform bristles on the inner surface. The fifth segment of all the tarsi with four pairs of lateral bristles as in the hind-tarsus of true *Neopsylla*.

Genotype: *R. masculana* spec. nov.

The genus is closely allied to both *Neopsylla* Wagner (1902) and *Ctenophthalmus* Kolen. (1856), but distinguished by the characters mentioned above. Besides the type two other species belong here: *pentacanthus* Roths. (1897) and *isacanthus* Roths. (1907). They agree closely with *masculana*, but have the frons not produced into a sharp angle, whereas they bear a small frontal tubercle, which is absent from *masculana*.

#### 10. *Rhadinopsylla masculana* spec. nov. (Pl. XI. fig. 14, 15 and 16).

*Head*.—We figure the head of the ♀ (Pl. XI. fig. 14). That of the ♂ differs in the frons being more convex between antennal groove and frontal corner, and in the occiput being longer than in the ♀. The frontal part of the head bears in both sexes an anterior row of six bristles as shown in the figure, and between this row and the comb two longer bristles. The first spine of the comb is the smallest, the last (or most dorsal) the broadest, and the third and fourth the longest. The antennal groove extends farther upwards in the ♂ than in the ♀; the optical dorsal outline of the head is slightly incassate above the antennal groove, but not interrupted. The occiput has three rows of bristles. There is no row of short

bristles along the antennal groove. The eye is traceable at the base of the uppermost spine of the comb. The maxillary palpus is as long as the rostrum or even a little longer, both reaching to the trochanter or close to the apex of the fore-coxa. The apical segment of the labial palpus is much shorter than the preceding one, being scarcely twice as long as broad. The bristle placed at the posterior corner of this segment is long and strongly curved. The first segment of the antenna bears only a few short hairs, and the hairs of the second segment are all short.

*Thorax.*—The comb of the pronotum contains thirteen or fourteen spines, the ventral ones being much shorter than the others and also placed farther away from the basal margin, so that the bases of the spines form a curved oblique line. The most ventral spine is placed at least as far from the lower edge of the pronotum as do the dorsal spines from the base of the pronotum. There is a single row of eight long bristles on the two sides of the pronotum together, the ventral bristle being nearer the base of the pronotum and the dorsal bristles nearer the comb. The dorsal spines of the comb are almost twice as long as their distance from the base of the pronotum. The mesonotum is as long as the pronotum inclusive of comb, and a very little longer than the metanotum, and bears a postmedian row of ten long bristles on the two sides together. The surface between this row and the base is covered with numerous short bristles, with the exception of the ventral portion of the mesonotum. On the inner surface near the apex there is a dorsal bristle-like spine on each side. The mesopleura bear four long bristles and sometimes an additional small one. The metanotum has dorsally at the apical edge some minute teeth, but no spines like the abdominal tergites, and bears two rows of bristles, the anterior row containing nine to twelve smaller bristles, and the posterior row eight or nine long ones. The metanotum and metepisternum are externally almost entirely continuous. The portion corresponding to the episternum is so enlarged ventrad that it is longer in a dorsoventral direction than its distance from the insertion of the coxa. It bears one long and two smaller bristles, while the metasternum has one long bristle and one short one. The metepimerum has the upper angle rounded off, the proximal edge moderately rounded, and the distal edge more strongly so. It bears an antemedian row of three bristles and farther upwards a postmedian row of three longer ones, the stigma being placed between the two dorsal bristles of the second row. This stigma is larger than the abdominal ones. Near the ventral margin of the metepimerum, from near the insertion of the coxa obliquely backwards there is a space which bears, instead of the ordinary undulate or angulate ridges characterising the exoskeleton of Siphonaptera, numerous regular parallel ridges, some of which are continuous with the ordinary ridges of the rest of the metepimerum.

*Abdomen.*—Tergites i. to vi. bear short but strongly chitinised apical spines as follows on the two sides together: in ♂ 6, 6, 6, 4, 2, 2, and in ♀ 6, 6, 4, 2, 2, 2; i. to vii. have two rows of bristles, the second row contained on the two sides together 8, 12, 12, 12, 12, 10. The stigmata are placed between the two lower bristles of the second row; they are elongate and but little broader than the groove of insertion of the lowest bristle. The ♀ bears two long antepygial bristles on a common truncate prominence. The edge of the segment is produced dorsally, *i.e.* in between the antepygial pairs of bristles, and sinuate below these bristles, the edge being slightly convex below the sinus and then oblique and almost straight. In the ♂ the seventh tergite resembles the preceding ones, the row of long



bristles being situated in the centre of the segment and there being no antepygidial bristles. The bristles of the sternites are long, the numbers being as follows on the two sides together: in ♂ 2, 6, 8, 8, 8, 7; and in ♀ 2, 9, 11, 10, 10, sternites iii. to vi. of the ♀ bearing on each side one bristle in front of the row, and sternite vii. having altogether seventeen bristles. The pygidium is strongly convex, projecting backwards.

*Legs.*—The subapical sinus at the hind-side of the mid-coxa is semicircular, the angle above it being but slightly rounded off and the hindmargin of the mid-coxa almost straight; the apical lobe of the mid-coxa is large, and there are two bristles on its base at some distance from the sinus. The hind-coxa bears a patch of about ten short spiniform bristles on the inside at the apical third, those bristles of this patch which are nearest the anterior edge of the coxa being longer and thinner, and those placed between the patch and the apex of the coxa being normal in shape. The posterior subapical sinus of the hind-coxa is shallower than in the mid-coxa, and the apical lobe longer. This lobe bears three long bristles. The femora are slender, the proportional length and width of the hind-femur being 21 and 8 respectively, and bear one bristle on the inner lateral surface towards the base. There are two subapical ventral bristles on the outside of the hind-femur and one on the inside, all long and slender. The tibiae have six dorsal notches inclusive of the apical one, each bearing a pair of divergent bristles, there being sometimes an additional solitary dorsal bristle between the fourth and fifth pairs of the hind-tibia. A row of six lateral bristles on the outer surface corresponds with the dorsal notches. The longest ventral apical bristle of the mid-tibia and the longest dorsal apical bristle of the hind-tibia reach far beyond the apex of the first tarsal segment. The bristles of the tibiae and those of the hind-tarsus are very strong. The longest one of the first hind-tarsal segment extends beyond the apex of the second segment and the corresponding bristle of the second reaches a little beyond the fourth. The mid-tarsi of the ♂ are broken. The tarsal segments measure:

♂ hind-tarsus 33, 31, 13, 10, 19.

♀ mid-tarsus 18, 16, 9, 7, 18; hind-tarsus 40, 24, 14, 11, 20.

The fourth hind-tarsal segment is twice as long as it is broad. The four ventral pairs of bristles of the fifth segment are quite lateral, the first pair not being moved on to the ventral surface.

*Modified segments.*—♂. The eighth tergite bears no bristles. The cavity of the stigma is large, nearly horizontal, and almost gradually narrows inwards. The eighth sternite is large and has a transverse row of eight bristles on the two sides together. The clasper is longer than it is broad, with the dorsal and ventral margins almost parallel (Pl. XI. fig. 12), the distal margin slanting upwards, the lower angle quite effaced and the upper one extended to near the apex of the "finger" (Pl. XI. fig. 15, P). The clasper bears one moderately strong bristle below the insertion of the finger, a small and thin one above the insertion, and several other thin ones at and near the apex of the process P. Moreover, there are several larger bristles at the dorsal margin, one of which is particularly strong and long. The manubrium (M) is broad proximally and narrow distally, its ventral margin being moderately convex. The finger (Pl. XI. fig. 15, F) is narrow, evenly curved, somewhat tapering, with the distal side convex. The bristles are all thin and short, the one placed in the centre of the distal surface being the longest. The ninth sternite is boomerang-shaped; the ventral, horizontal portion is particularly

broad proximally and gradually tapers to a point distally, the dorsal margin being slightly incurved and the ventral margin gradually rounded. This sternite bears numerous small bristles, as shown in the figure. The anal segment is separated from the pygidium by a distinct suture, the tergite being convex in the centre and bearing here a number of long bristles.

♀. The modified segments of this sex are very interesting. The seventh sternite bears eight or nine bristles on each side, and is divided by a deep and very narrow sinus into two lobes (Pl. XI. fig. 16). The upper lobe, which is incomplete in our specimens, is strongly chitinised, with the ridges unusually prominent. It is undoubtedly rounded at the apex when in a perfect condition. The lower lobe is much narrower and tapers to a point (lateral aspect). The eighth tergite has no bristles above the stigma, but bears two or three below it, the lower one of them being long. The ventral lateral portion is divided by a narrow apical sinus, much as in *Stenoponia tripectinata* Tirab. (1902), and bears above this sinus two long bristles on the outer surface and four shorter ones on the inside. The outer surface, moreover, has a subventral row of five long bristles and above this row five more bristles. The anal tergite is not divided by a suture from the very strongly convex pygidium, but is also convex in the centre as in the ♂ and bears here long bristles. The stylet is slender, being four times as long as it is broad and about equal in length to the third hind-tarsal segment. The receptaculum seminis (Pl. XI. fig. 16 rec.) is characterised by the head not being much wider than the beginning of the tail, and the apex of the tail being strongly chitinised and separated from the rest of the tail by a constriction.

Length (mounted specimens): ♂ 1.7 mm., ♀ 2.2 mm.

1 ♂ and 2 ♀ ♀, from Khenchela, off *Meriones shawi*, early May 1912.

1 ♀, from Guelt-es-Stel, off *Meriones shawi*, late April 1912.

### 11. *Typhloceras poppei* Wagn. (1902).

*T. p.* Wagner, *Hor. Soc. Ent. Ross.* xxxvi. p. 154 (1902) (Vegesack, near Bremen).

The species, which appears to be widely distributed in the western portion of the Palaearctic Region, does not seem to vary geographically. The specimens from Algeria agree with those we have from England and Germany.

A noteworthy peculiarity of this interesting species is the position of the antepygial bristles. These are placed on elevated and strongly chitinised sockets which are placed some distance from the apical edge of the segment, as in *Pulex* and allied genera. In *Ctenophthalmus*, *Ceratophyllus*, etc., in fact, in the majority of Siphonaptera, the seventh tergite is sinuate posteriorly to the antepygial bristles, so that their sockets are placed at the hind-margin of the segment.

1 ♀ from Alger, taken off *Mus algerus* on April 1, 1912.

1 ♀ " " " " *Apodemus sylvaticus* on March 21, 1912.

### 12. *Leptopsylla algira* spec. nov. (Pl. XII. fig. 17, 18, 19).

♂ ♀. A species with three genal spines, as in *L. taschenbergi* Wagn. (1898), from Europe, and *L. aethiopicus* Roths. (1908), from Tropical Africa, but differs in the smaller number of teeth in the pronotal comb and the modified abdominal segments of both sexes.

The upper spine of the genal comb (Pl. XII. fig. 18) covers the genal process to a greater extent than in *L. aethiopicus*. The pronotal comb contains twenty-two spines on the two sides together, besides a small ventral spine on each side. The proportional lengths of the first and second segments of the tarsi are appreciably different in *L. aethiopicus* and *L. algira*, the first segment being longer in the former species than in the latter. The measurements of the mid- and hind-tarsi are in *L. algira*:

Mid-tarsus: ♂, 18, 15, 11, 8, 14; ♀, 17, 13, 10, 7, 13.

Hind-tarsus: ♂, 39, 24, 16, 9, 15; ♀, 37, 21, 15, 8, 14.

*Modified Segments.*—♂. The movable process (Pl. XII. fig. 17, F) reaches to the apex of the clasper in the species mentioned above as well as in the new one, and is more or less convex on the distal side and concave on the proximal side, being of almost even width in *taschenbergi* with the apical portion slightly tapering (according to Wagner's figure), whereas it is broadest beyond the centre in *algira*, and almost club-shaped in *aethiopicus*. It bears five bristles on the distal side, of which the last but one is the longest, the last the second longest, and the other three are thin and nearly equal in length. The clasper is produced into a long process (P), which is slightly curved towards the "finger" (F) and somewhat widened before the apex. This process bears a long bristle at the distal margin beyond two-thirds of the way from the insertion of the finger to the apex of the process, a small bristle being placed farther apically and a minute hair on the dorsal side. The manubrium (M) is shorter than the clasper in *algira*, while it is longer than the clasper in *aethiopicus* as well as in *taschenbergi*. The distal portion of the ninth sternite is very complicated both in *algira* and *aethiopicus* (and presumably also in *taschenbergi*) and only differs in the detail in the two species, this sternite in *algira* bearing fewer bristles and being broader at the apex. The eighth sternite (Pl. XII. fig. 17, viii. st.) is triangular in a lateral view in *algira* and has five bristles, whereas in *aethiopicus* it is conical with the tip rounded and bears a larger number of bristles at and near the apex.

♀. This sex is at once distinguished from the ♀ of *aethiopicus* by the seventh sternite (Pl. XII. fig. 19, vii. st.) being divided by a deep sinus into a narrow and pointed upper lobe and a broader and longer lower one. The bristles on the eighth tergite are fewer in number in *algira* than in *aethiopicus*, the former bearing about a dozen bristles on the widened ventral portion of the segment, while *aethiopicus* has sixteen or more. The stylet is somewhat longer in *algira* than in *aethiopicus*, the head of the receptaculum seminis (Pl. XII. fig. 19, r.s.) being also longer and narrower than in *aethiopicus*.

The antepygial bristles of *algira* and *aethiopicus* (and perhaps *taschenbergi*) are remarkable for their arrangement. The ♂ bears on each side three and the ♀ four, and these bristles are divided into two sets separated by a sinus of the hind-margin of the seventh tergite, there being two bristles above the sinus and one below it in the ♂, and two above and two below it in the ♀. In *L. musculi*, *sobrinus*, *pectiniceps*, etc., the sockets of the antepygial bristles of each side are contiguous, there being no interspace within the cluster.

*L. algira* was plentiful on *Arceuthobium barbarus* at Alger and Hammam Rirha together with *Ceratophyllus barbarus*, both fleas being found on the same individuals of the host as well as in the nest. We also found a few specimens on *Crocidura russula* and *Apodemus sylvaticus*, which are doubtless accidental hosts.

13. **Stenoponia tripectinata** Tirab. (1902).

*Hystrichopsylla tripectinata* Tiraboschi, *Boll. Soc. Zool. Ital.* xi, p. 169, plate (1902) (Italy).

We proposed *Stenoponia* for *tripectinata* and *coelestis* in *Proc. Zool. Soc. Lond.*, p. 391 (1911). The chief distinctions are the four-segmented labial palpi and the presence of one receptaculum seminis instead of two as in *Hystrichopsylla*.

*S. tripectinata* is a Mediterranean species known from Italy, Asia Minor and the Azores. We met with it only on the Hants Plateaux.

3 ♂♂, 2 ♀♀ from Guelt-es-Stel, off *Meriones shawi*, April 21 and 23, 1912.

1 ♂, 2 ♀♀ from Khenchela, off *Meriones shawi*, May 10, 1912.

9 ♂♂, 4 ♀♀ from Khenchela, off *Mus algirus*, May 8, 1912.

14. **Ischnopsyllus unipectinata** Tasch. (1880).

*Typhlopsylla unipectinata* Taschenberg, *Die Flöhe* p. 91 (1880) (Switzerland, off *Rhinolophus hipposideros*).

1 ♂, 1 ♀ from Guelt-es-Stel, off *Rhinolophus ferram-equinum*, April 17, 1912.

Only the pronotal comb is developed in this species, but there are some short stout spines at the apices of the metanotum and the first three abdominal tergites which are presumably remnants of four more combs. From the presence of these vestigial combs we may conclude that species exist or have existed with these combs fully developed. *R. unipectinata* agrees in all essentials best with *Ischnopsyllus*, apart from the male genitalia, which are of a different type.

---

## ON SOME UNFIGURED BIRDS.

(Plates I. and II.)

By ERNST HARTERT.

Pl. I. : *Monias benschi* Oust. & Grandid.

In the *Bulletin du Muséum d'Histoire Naturelle, Paris*, vol. ix., 1903, pp. 10-12, Messrs. Oustalet & Grandidier described a very peculiar new bird from Vorondreo, 25 kilometres east of Tuléar, in Madagascar, which they called *Monias benschi*, in honour of Monsieur Bensch, Administrator of Madagascar, who had presented the type, a unique specimen, to the Paris Museum.

The authors suggested that this bird, which is undoubtedly the representative of a new genus, might belong to the *Rallidae*, but they truly said that this supposed position in the system was only a suggestion, and that it was always difficult, and often even dangerous, to decide about the actual position and affinities of a bird of which one possessed only a skin, without skeleton.

About a year ago or so we received from Mr. W. F. H. Rosenberg in London three skins of *Monias benschi*, killed near Tuléar, in Madagascar, the actual "terra typica" of this species. The type of this bird was described as a female, while two of our birds are said to be males, one a female. The female agrees with the original description, having the feathers of the chin and fore-neck reddish chestnut, with white bases and white outer edges, not quite extending to the tip, thus producing a rufous chestnut appearance, mottled with white; the jugular region is more rusty brown, and each feather has a roundish black spot near the tip. The two "males" have the throat and fore-neck white, and a black line runs down the sides of the neck, commencing very narrowly under the eye, and widening towards the shoulders; the jugulum is also white, with a roundish or heart-shaped spot near the tip of each feather. Otherwise the sexes are similarly marked and coloured.

With regard to the systematic position, we can at present only make suggestions, having, like Messrs. Oustalet & Grandidier, only skins before us; these skins, though a little better than the type specimen, are very badly prepared, a fact which does not by any means facilitate their study. I should say that probably the authors are right in suggesting that *Monias* belongs to the *Rallidae*, unless it forms a new family.

The curved bill reminds one at first sight of a *Pomatorhinus*, but *Monias* cannot be a Passerine bird. The head is somewhat flat on top; the nostrils are slit-like, and lie in a longitudinal groove which extends about to the middle of the beak. The nostrils are **not** pervious, as in most Rails, but as there are exceptions among the Rails (*Rhinochetus*), this alone could not decide against the Ralline affinities. The feathers are soft, downy (fluffy) at base, the plumage is tight and close. Wings rounded, the first about two-thirds of the longest, the fourth, fifth, and sixth about equal and longest, the longest secondaries about as long as the primaries. Tail long and rounded, consisting of **fourteen**, not twelve, rectrices. Upper tail-coverts reaching nearly to the middle of the tail,

under tail-coverts wide, broad, and extending as far as two centimetres from the end of the tail. In front and behind the eye is a triangular bare spot, black in the skins. The legs and feet are very strong and short, the hind toe well developed, middle toe comparatively short. Lower part of tibia bare. Tarsometatarsus anteriorly with seven or eight strongly marked large scales, posteriorly with less prominent though distinct scales. Toes strongly scaled.

Culmen 38—41, wings ♀ 125, ♂♂ 123—125, tail 135—140, tarsus about 32—35, middle toe with claw 31—33, hind toe with claw 19—20 mm.

On the wing appears to be a bony protuberance below the bend and some obstacle on the wing, in the place of the thumb, reminding one of the well-developed claws of the index and pollex in the young *Opisthocomus*, and in other Rails.

Our three birds are fully adult. It is to be hoped that a specimen in spirit may soon reach a European museum.

#### Pl. II. : *Leucopsar rothschildi* and *Gracupica tertia*.

*Leucopsar rothschildi* has been described by Mr. Stresemann in *Bull. B.O. Club* xxxi. p. 4 (28. x. 1912), from a single specimen shot by himself on the island of Bali. Apart from the interest attached to every discovery of an entirely new species and genus of birds, this remarkable Starling, with its long, pendent occipital crest, is apparently the only distinct species inhabiting—as far as our present knowledge goes—the island of Bali alone. All the other forms found on Bali are either the same as those occurring on Java, or closely allied subspecies; or, on the other hand, found also on Lombok, or Lombok and other islands.

*Gracupica tertia* has been named by myself in *Nor. Zool.* iii. p. 547, 1896, from specimens collected on Bali by the late William Doherty. The same distinct species was afterwards also found on the island of Lombok by the late Alfred Everett (cf. *Nor. Zool.* iii. p. 594).

More about *Leucopsar rothschildi* and *Gracupica tertia* will be said in an account of the birds of Bali by Mr. E. Stresemann, which will be published in *Nor. Zool.* xv., 1913. For some preliminary remarks on the zoogeographical relations of Bali and Lombok see *Bull. B.O. Club* of the November meeting, 1912.

---

SOME UNFIGURED SYNTOMIDÆ, MEGERLADÆ, AND ARCTIANÆ.

BY THE HON. W. ROTHSCHILD, PH.D., F.R.S.

PLATE III.

FIG.		Nov. Zool.
1.	<i>Teucer apicalis</i> Rothsch. . . . .	Vol. xviii. p. 42
2.	„ <i>distincta</i> Rothsch. . . . .	„ „ p. 43
3.	„ <i>rubrothorax</i> Rothsch. . . . .	„ „ „
4.	„ <i>germana</i> Rothsch. . . . .	„ „ „
5.	<i>Episcepsis hamptoni</i> Rothsch. . . . .	„ „ „
6.	„ <i>dominicensis</i> Rothsch. . . . .	„ „ p. 44
7.	„ <i>klagesi</i> Rothsch. . . . .	„ „ „
8.	„ <i>sordidus</i> Rothsch. . . . .	„ „ „
9.	„ <i>ockendeni</i> Rothsch. . . . .	„ „ „
10.	„ <i>littoralis</i> Rothsch. . . . .	„ „ „
11.	<i>Argyrooides fuscipes</i> Rothsch. . . . .	„ „ p. 42
12.	<i>Diptilon aurantiipes</i> Rothsch. . . . .	„ „ „
13.	<i>Episcepsis scintillans</i> Rothsch. . . . .	„ „ p. 44
14.	<i>Amata albicornis</i> Rothsch. . . . .	Vol. xvii. p. 433
15.	<i>Ceryx affinis</i> Rothsch. . . . .	„ „ p. 429
16.	<i>Amata pseudocretusa</i> Rothsch. . . . .	„ „ p. 435
17.	„ <i>pericantlia sinensis</i> Rothsch. . . . .	„ „ „
18.	„ <i>jankowskyi</i> Rothsch. . . . .	„ „ p. 434
19.	„ <i>basigera gilolensis</i> Rothsch. . . . .	„ „ „
20.	„ <i>simillima</i> Rothsch. . . . .	„ „ „
21.	„ <i>assamica</i> nom. nov. = <i>khasiana</i> Rothsch. (nom. preoc.) . . . . .	„ „ p. 435
22.	<i>Callitomis gigas</i> Rothsch. . . . .	„ „ p. 429
23.	<i>Amata leechi</i> Rothsch. . . . .	„ „ p. 433
24.	„ <i>flavolurata</i> Rothsch. . . . .	„ „ p. 434
25.	<i>Ceryx necki</i> Rothsch. . . . .	„ „ p. 429
26.	<i>Amata fruhstorferi</i> Rothsch. . . . .	„ „ p. 435
27.	„ <i>jacksoni</i> Rothsch. . . . .	„ „ p. 432
28.	„ <i>nigrobasis</i> Rothsch. . . . .	„ „ p. 436
29.	„ <i>attenuata</i> Rothsch. . . . .	„ „ p. 437
30.	<i>Trichacta hosei</i> Rothsch. . . . .	„ „ p. 431
31.	<i>Diptilon hoffmannsi</i> Rothsch. . . . .	Vol. xviii. p. 42
32.	<i>Mesotha dorsimacula</i> Rothsch. . . . .	„ „ p. 45
33.	<i>Callitomis distorta</i> Rothsch. . . . .	Vol. xvii. p. 429
34.	<i>Amata dicesi</i> Rothsch. . . . .	„ „ p. 432
35.	„ <i>snelleni</i> Rothsch. . . . .	„ „ „
36.	„ <i>quadripunctata</i> Rothsch. . . . .	„ „ p. 433
37.	„ <i>connectens</i> Rothsch. . . . .	„ „ „
38.	<i>Ceryx keiensis</i> Rothsch. . . . .	„ „ p. 430
39.	„ <i>ericsoni</i> Rothsch. . . . .	„ „ „
40.	„ <i>aurantiobasis</i> Rothsch. . . . .	„ „ „

	Nov. Zool.
41. <i>Ceryx kuehni</i> Rothsch. . . . .	Vol. xvii. p. 430
42. „ <i>swinhoei minor</i> Rothsch. . . . .	„ p. 431
43. <i>Tricharta kamegieteri</i> Rothsch. . . . .	„ „
44. <i>Amata turneyi</i> Rothsch. . . . .	„ „
45. „ <i>penbertoni</i> Rothsch. . . . .	„ „
46. „ <i>kalidupensis</i> Rothsch. . . . .	p. 432
47. „ <i>williamsi</i> Rothsch. . . . .	p. 433

## PLATE IV.

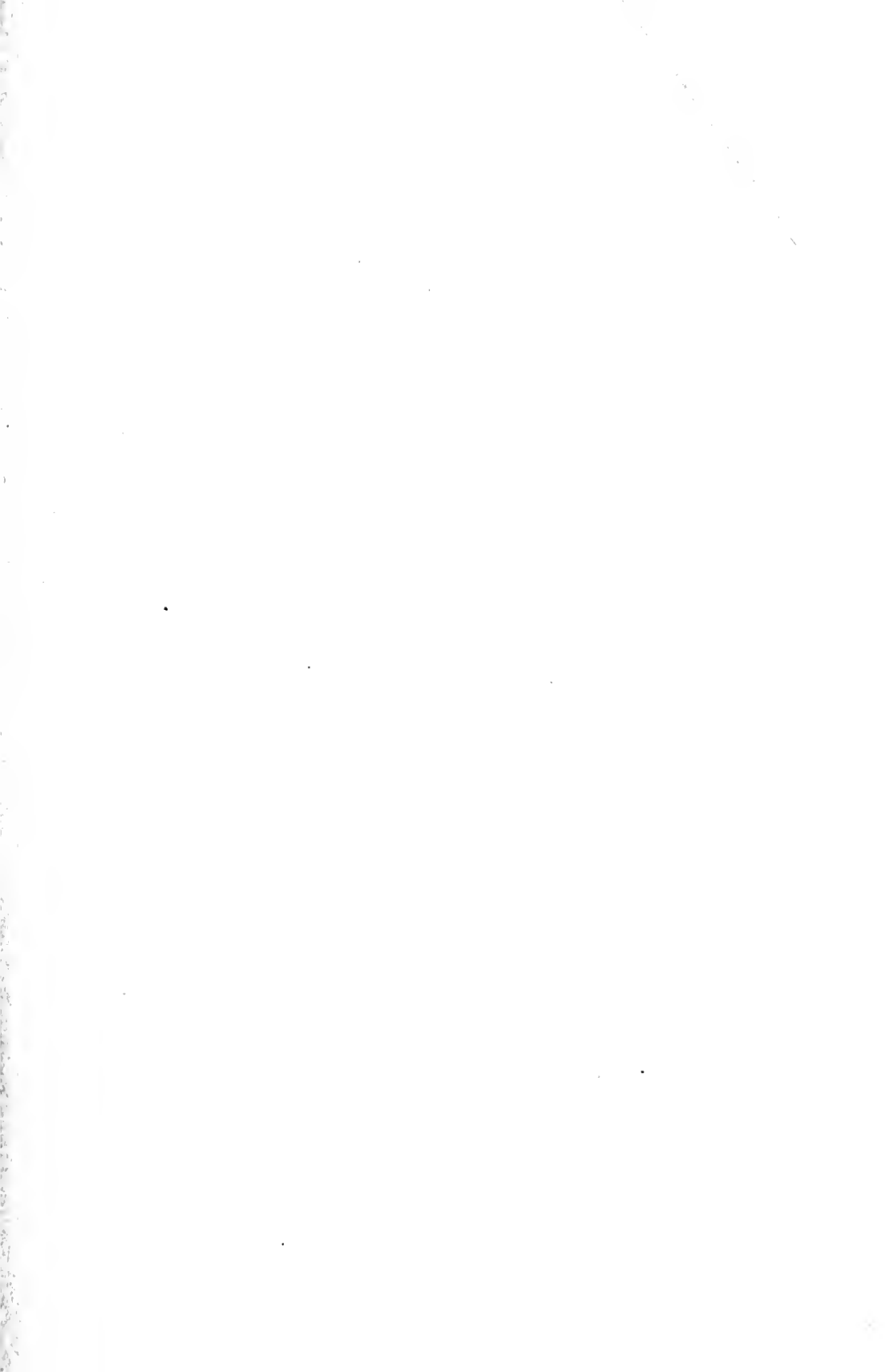
1. <i>Amata keuredi</i> Rothsch. . . . .	p. 436
2. „ <i>candepolli</i> Rothsch. . . . .	„ „
3. „ <i>everetti</i> Rothsch. . . . .	„ „
4. „ <i>henrici</i> Rothsch. . . . .	p. 437
5. <i>Eressa dohertyi</i> Rothsch. . . . .	„ „
6. „ <i>confinis maluccensis</i> Rothsch. . . . .	„ „
7. „ <i>confinis intensa</i> Rothsch. . . . .	p. 438
8. „ <i>aperiens khasiana</i> Rothsch. . . . .	„ „
9. „ <i>respoules</i> Rothsch. . . . .	„ „
10. „ <i>ichneumoniformis</i> Rothsch. . . . .	„ „
11. <i>Dysares punctata kashmiriensis</i> Rothsch. . . . .	p. 441
12. <i>Apisa subcanescens</i> Rothsch. ♀ (♂ cf. fig. 18)	p. 442
13. „ <i>canescens</i> Walk. ♂ . . . . .	For comparison „
14. „ <i>rendalli</i> Rothsch. ♀ . . . . .	p. 441
15. „ <i>canescens</i> Walk. ♀ . . . . .	For comparison „
16. <i>Epitoxis ansorgei</i> Rothsch. . . . .	p. 441
17. <i>Pseudonacelia puella minor</i> Rothsch. . . . .	„ „
18. <i>Apisa subcanescens</i> Rothsch. ♂ (♀ cf. fig. 12)	p. 442
19. „ <i>aurantiaca</i> Rothsch. . . . .	p. 441
20. <i>Eressa simplex</i> Rothsch. . . . .	p. 439
21. „ <i>everetti</i> Rothsch. . . . .	„ „
22. <i>Nereessa whiteheadi</i> Rothsch. . . . .	„ „
23. <i>Hyalotheta kuehni</i> Rothsch. . . . .	„ „
24. „ <i>meekei</i> Rothsch. . . . .	„ „
25. „ <i>dohertyi</i> Rothsch. . . . .	p. 440
26. „ <i>metaphaea georgiensis</i> Rothsch. . . . .	„ „
27. „ „ „ „ ♂ . . . . .	„ „
28. „ <i>alberti</i> Rothsch. . . . .	„ „
29. <i>Pseudoceryx dohertyi</i> Rothsch. . . . .	„ „
30. <i>Sphecia bombyliiformis</i> Rothsch. . . . .	Vol. xviii. p. 45
31. <i>Melittia funebris</i> Rothsch. . . . .	p. 46
32. <i>Pavanthrene affinis</i> Rothsch. . . . .	„ „
33. <i>Aegeria aurantiibasis</i> Rothsch. . . . .	„ „
33a. „ „ „ × 2 . . . . .	„ „
34. „ <i>gaudens</i> Rothsch. . . . .	„ „
34a. „ „ „ × 2 . . . . .	„ „
35. <i>Melittia imperator</i> Rothsch. . . . .	p. 45
36. <i>Aegeria ruficauda</i> Rothsch. . . . .	p. 46
37. <i>Ichneumonoptera dohertyi</i> Rothsch. . . . .	p. 47
38. <i>Saonioidia peruviana</i> Rothsch. . . . .	„ „
39. <i>Ichneumonoptera caeruleifascia</i> Rothsch. ♂ (♀ cf. fig. 41)	„ „
40. <i>Melittia superba</i> Rothsch. . . . .	Vol. xvi. p. 132
41. <i>Ichneumonoptera caeruleifascia</i> Rothsch. (♂ cf. fig. 39)	Vol. xviii. p. 47



## PLATE V.

FIG.		NOV. ZOOLOG.
1.	<i>Antonomolis pseudoguapisa</i> Rothsch. ♂ (♀ cf. fig. 11)	Vol. xvii. p. 505
2.	<i>Halisidota umbriana</i> Rothsch. ♂	" p. 68
3.	<i>Antonomolis latania</i> Druce. ♂	For comparison.
4.	" <i>schistaceus</i> Rothsch. ♂	p. 504
5.	<i>Hypnomolis fassli</i> Rothsch. ♂	Vol. xviii. p. 158
6.	<i>Amata orstoni</i> Rothsch. ♂	" p. 155
7.	" <i>alberti</i> Rothsch. ♀	" p. 154
8.	<i>Gymnelia plumosa</i> Rothsch. ♂	" p. 156
9.	<i>Chrysothola cosmosomoides</i> Rothsch. ♀ (♂ in text error)	" p. 157
10.	<i>Antonomolis taniuloides</i> Rothsch. ♂	Vol. xvii. p. 504
11.	" <i>pseudoguapisa</i> Rothsch. ♀ (♂ cf. fig. 1)	" p. 505
12.	" <i>garleppi pullidipennis</i> Rothsch. ♂	" p. 25
13.	<i>Micronaelia bicolor</i> Rothsch. ♀	Vol. xviii. p. 155
14.	<i>Amata urantifrons</i> Rothsch. ♂	" p. 154
15.	<i>Micronaelia leopardina</i> Rothsch. ♀	" p. 155
16.	<i>Halisidota colombiana</i> Rothsch. ♂	" p. 158
17.	<i>Robinsonia banghaasi</i> Rothsch. ♀	" p. 157
18.	<i>Halisidota doguini</i> Rothsch. ♀	Vol. xvii. p. 506
19.	<i>Amastus postflavidus</i> Rothsch. ♀	Vol. xviii. p. 158
20.	<i>Pelochyta fassli</i> Rothsch. ♂	" "
21.	<i>Amata wilemani</i> Rothsch. ♂	" p. 154
22.	<i>Antonomolis guapisa</i> Schaus.	For comparison.
23.	" <i>tanaia</i> Schaus.	For comparison.
24.	<i>Amata arfakensis</i> Rothsch.	" p. 154
25.	" <i>gunuanensis</i> Rothsch.	" p. 155
26.	<i>Micronaelia oberthueri</i> Rothsch.	" "
27.	<i>Antonomolis flavoplagiata</i> Rothsch.	p. 157
28.	<i>Phragmatobia faroulti</i> Rothsch. <i>Ann. Mag. Nat. Hist.</i> vol. viii. p. 233. 1911.	
29.	<i>Antonomolis flavomargiata</i> Rothsch.	Vol. xvii. p. 21
30.	<i>Xeritos syntomoides</i> Rothsch.	" p. 505
31.	<i>Ochrodota pronipides major</i> Rothsch.	" p. 36
32.	<i>Cosmosoma lemoulti</i> Rothsch.	Vol. xviii. p. 156
33.	<i>Gymnelia plagiata</i> Rothsch.	" "
34.	<i>Trichiura pusilla</i> Rothsch.	" p. 157
35.	<i>Homoeocera bombiformis</i> Rothsch.	" p. 156
35a.	" " Secondary sexual organs	
36.	" <i>garleppi</i> Rothsch.	" p. 156





*Advertisements of Zoological Objects and Zoological Books only accepted.*

Subscriptions for the present Volume are due NOW.

**Dr. STAUDINGER & BANG-HAAS,  
BLASEWITZ-DRESDEN,**

In their NEW PRICE LIST, No. LIII., offer more than 16,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition; 1,400 kinds of PREPARED LARVAE; numerous LIVING PUPAE, etc. SEPARATE PRICE LISTS, No. XXX., for COLEOPTERA (23,000 Species).

LISTS VII. and VIII., for HYMENOPTERA (3,200 Species), DIPTERA (2,400), HEMIPTERA (2,200), NEUROPTERA (600), ORTHOPTERA (1,100), BIOLOGICAL OBJECTS (265).

All Lists have a convenient index of genera.

*Liberal Discount for Cash Orders. Prices low.*

**WILHELM SCHLUETER,  
HALLE-a-S., GERMANY.**

ESTABLISHED 1853.

**LARGEST STOCK OF**

European and Exotic BIRD SKINS.

European and Exotic BIRDS' EGGS

**NATURAL HISTORY OBJECTS OF ALL KINDS  
FOR MUSEUMS AND COLLEGES.**

Outfit and Completion of Natural History Cabinets.

OWN PREPARATION WORKS.

*Export to all parts of the World of many years' standing.*

CATALOGUES FREE OF CHARGE.

**W. F. H. ROSENBERG,  
Importer of EXOTIC ZOOLOGICAL COLLECTIONS,  
57, HAVERSTOCK HILL, LONDON, N.W.**

Fresh consignments are constantly arriving, including MAMMALS, BIRD SKINS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED.

SPECIMENS SENT ON APPROVAL.

RECENTLY RECEIVED.—Several collections of Indian Birds' Eggs, with full data and guaranteed identification, including many great rarities.

**TO ORNITHOLOGISTS & MUSEUMS.**

**W. F. H. ROSENBERG,**

*Importer of Exotic Zoological Specimens,*

**57, Haverstock Hill, London, N.W., England,**

Begs to announce the publication of a new Price List (No. 17) of BIRD SKINS. This Catalogue contains nearly 6,000 species, and is the largest and most complete price list of birds ever published. It is arranged in systematic order, with authors' names, indications of localities, and an index to Families. It will be sent gratis and post free on application, as will the following lists:

No. 14: Mammals. No. 15: Birds' Eggs. No. 16: Reptiles, Amphibia, and Fishes. No. 12: Lepidoptera. No. 13: Coleoptera.

**Largest stock in the world of specimens in all branches of Zoology.**

Please state which Lists are required.

**ROWLAND WARD, Ltd.,**

**"The Jungle,"**

**167, PICCADILLY, LONDON, W.**

**MAMMALS, BIRDS,**

**ETHNOGRAPHICAL SPECIMENS**

**for Museums.**

**A REVISION OF THE LEPIDOPTEROUS FAMILY**

**SPHINGIDAE**

BY THE

**Hon. WALTER ROTHSCHILD, Ph.D.**

AND

**KARL JORDAN, M.A.L., Ph.D.**

PRICE: for Booksellers, £4; for the Public, £5.

CLXXXV and 372 PAGES, WITH 67 PLATES.

*Annual Subscription to "Novitates Zoologicae," £1 1s.*

*Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on completed volumes only.)*

Communications, etc., may be addressed to

THE EDITORS OF "NOVITATES ZOOLOGICAE,"

ZOOLOGICAL MUSEUM,

TRING.

# NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, F.R.S., PH.D.,  
DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XIX.

No. 3.

PAGES 379—403.

PLATES I.—V. AND XIII., XIV.

ISSUED APRIL 14TH, AT THE ZOOLOGICAL MUSEUM, TRING.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1913.

VOL. XIX.

NOVITATES ZOOLOGICAE.

EDITED BY

WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN

*CONTENTS OF NO. III.*

INDEX TO VOLUME XIX. . . . . PAGES  
379-403

EXPLANATIONS OF PLATES XIII AND XIV.

PLATES I.—V. AND XIII.—XIV.

(TITLE-PAGE, CONTENTS, AND ERRATA TO VOLUME XIX.)

## INDEX.

- abbreviata* (*Tathothripa*), 47.  
*abdominalis* (*Agyrta*), 162, 163.  
*Abromais*, 282, 283.  
*absona* (*Anisogamia*), 68.  
*Acantholipes*, 55.  
*acanthopus* (*Apion*), 110, 111.  
— (*Trichapion*), 97, 110.  
*Accipiter*, 276.  
*Aclytia*, 159, 160.  
*Aeorynus*, 137.  
*Acrapex*, 35.  
*Acridotheres*, 308.  
*Aeronicta*, 1.  
*Actinodura*, 289.  
*acuticauda* (*Munia*), 307.  
*acutipennis* (*Agyrta*), 163.  
*adamaris* (*Heteropan*), 147.  
*adusta* (*Amycles*), 153, 154.  
*adustum* (*Chirotenon*), 63.  
*aedon* (*Arundinax*), 297.  
— (*Phragmaticola*), 297.  
*Aegeria*, 122.  
*Aegithaliscus*, 301, 302.  
*Aegithalos*, 301.  
*Ægithalus*, 302.  
*Aegotheles*, 196.  
*aemodium* (*Conostoma*), 292.  
*aemodius* (*Parus*), 301.  
*enea* (*Chaptia*), 309.  
*aeolum* (*Eucereon*), 176.  
*aeralatus* (*Pterythius*), 291.  
*acruiginosus* (*Cacomantis*), 332, 335.  
— (*Conurus*), 84, 85.  
*aethiopicus* (*Leptopsylla*), 370, 371.  
*aethiops* (*Poecilodryas*), 322.  
— (*Pratincola*), 322.  
*Aethiopsar*, 308.  
*Aethomyias*, 198.  
*Aethopyga*, 303, 304.  
*afer* (*Litotropis*), 67.  
*affinis* (*Aclytia*), 159.  
— (*Amycles*), 153.  
— (*Autochloris*), 156.  
— (*Apus*), 278.  
— (*Balacra*), 122.  
*affinis* (*Centropus*), 337.  
— (*Ceramidia*), 153.  
— (*Collocalia*), 348.  
— (*Coracias*), 277.  
— (*Criniger*), 342.  
— (*Empyreuma*), 155, 156.  
— (*Garudinodes*), 232.  
— (*Monosyntaxis*), 224.  
— (*Neoscaptia*), 239.  
— (*Phileros*), 185, 186.  
— (*Phloeobius*), 66.  
— (*Phylloscopus*), 297.  
— (*Pseudapicnoma*), 122.  
— (*Pycnorhamphus*), 305.  
— (*Telitrea*), 282.  
— (*Terpsiphone*), 282.  
*Agathia*, 72, 81.  
*agathia* (*Probolosceles*), 80.  
*Agathiopsis*, 68.  
*agrestis* (*Microtus*), 58, 59, 60, 62.  
*Agrotis*, 125.  
*Agylla*, 226-8.  
*Agyrta*, 161-5.  
*Agyrtachena*, 161.  
*agyrtes* (*Ctenophthalmus*), 59, 60, 62.  
— (*Typhlopsylla*), 59.  
*Ailuroedus*, 207, 209.  
*Aitcta*, 38, 39.  
*Alauda*, 305.  
*alba* (*Motacilla*), 304.  
*albanalis* (*Dadica*), 36.  
*albescens* (*Pasteosia*), 228.  
— (*Tigrioides*), 218.  
*albicans* (*Phloeotragus*), 64.  
*albiceps* (*Lambula*), 213.  
*albicilla* (*Erythrosterma*), 325.  
*albicollis* (*Neoscaptia*), 240.  
— (*Rhipidura*), 282.  
*albidus* (*Eucereon*), 174.  
*albidus* (*Anthus*), 315, 316.  
*albifimbria* (*Thalassodes*), 82.  
*albifrons* (*Machaerhynchus*), 200, 201, 208.  
*albifrontata* (*Rhipidura*), 282.  
*albifrontia* (*Trichacta*), 123.  
*albigularis* (*Columba*), 189.

- albigularis (Garrulax), 287.  
 albiguttata (Anisogamia), 69.  
 albilineata (Condica), 29.  
 albimargo (Carea), 42, 43.  
 albimixta (Arete), 49, 50.  
 albiri (Manoba), 231.  
 albiorbis (Condica), 28, 29.  
 albiplaga (Trisuloides), 3.  
 albofasciata (Lambula), 213.  
 — (Propyria), 183.  
 alboprisea (Areva), 228.  
 — (Tigrioides), 218.  
 albogularis (Abrornis), 282.  
 alboguttata (Euplexia), 27.  
 alboluteola (Agylla), 226.  
 albomaculata (Garudinoles), 232.  
 — (Chrysoscota), 216.  
 albomelia (Herpolasia), 149.  
 albonotata (Pratineola), 321.  
 alboplagiata (Manoba), 232.  
 alboseapularis (Malurus), 198.  
 alboseapulatus (Malurus), 198.  
 albotestacea (Agylla), 227.  
 Alcedo, 277.  
 alcinus (Machaerhamphus), 190.  
 Alcippe, 288.  
 Alcyone, 207.  
 alexandrinus (Mus), 357, 358.  
 alga (Leptopsylla), 370, 371.  
 algirus (Mus), 357, 358, 359, 362, 367, 370, 372.  
 aliemus (Heteropan), 146.  
 alifurus (Dendrobias), 330.  
 — (Dendrobiastes), 331.  
 alladinis (Ceratoptyllus), 362.  
 Alseonax, 323.  
 altera (Pyrrhula), 306.  
 alternans (Xylinades), 66.  
 alternata (Tympanistes), 47.  
 amabilis (Cyclopsitta), 194.  
 — (Cyclopsittacus), 194.  
 amandava (Sporaeqinthus), 308.  
 Amata, 123.  
 Amatornis, 272.  
 amazonicum (Eucereon), 171.  
 amazonum (Eucereon), 178.  
 ambiguus (Spinus), 305.  
 amboinensis (Clornis), 311.  
 — (Macropygia), 189.  
 americanum (Apion), 117.  
 amherstiae (Chrysolophus), 271.  
 ampelina (Yuhina), 291.  
 Anyeles, 153, 154.  
 Anace, 121, 122.  
 Anacerastes, 66.  
 anck (Troonys), 91.  
 andoga (Ptilotis), 203.  
 Anas, 275.  
 anchis (Acorynus), 137.  
 ancistrotarse (Apion), 108, 109.  
 — (Trichapion), 97.  
 andamanensis (Gracula), 313, 314, 315.  
 andersoni (Gennaues), 270.  
 andrei (Ctenucha), 184.  
 andrewesi (Habrisus), 90.  
 Androcharta, 151.  
 androconiata (Neoseaptia), 239.  
 Ancurhinus, 66.  
 angulilinea (Chlorochroma), 74.  
 angustifascia (Agathiopsis), 68.  
 angustipennis (Aiteta), 38.  
 — (Dendrotrogus), 144.  
 aniso (Heteropan), 148.  
 Anisogamia, 68-72.  
 anisus (Heteropan), 148.  
 annulipes (Apatenia), 63.  
 Anorthura, 293.  
 ansorgei (Ctenophthalmus), 365, 366.  
 antennata (Carea), 43.  
 Antherea, 87.  
 Anthipes, 323, 324, 328, 329.  
 anthracina (Anyeles), 153, 154.  
 Anthus, 304, 305, 315, 316.  
 Antichloris, 154, 155.  
 Antitype, 125.  
 Apatenia, 63, 141, 142.  
 Aphrania, 353, 354, 355.  
 apicalis (Heteropan), 147.  
 apiciplaga (Sasunaga), 15.  
 apicipuncta (Neoseaptia), 239.  
 Apion, 97-118.  
 aplota (Nerthomma), 142.  
 Apocrea, 170.  
 apoda (Paradisea), 206.  
 Apodemus, 357, 358, 359, 362, 367, 370, 371.  
 Apolecta, 145.  
 aporodes (Hippotion), 135.  
 approximans (Tigrioides), 217.  
 Apus, 278.  
 Araclnothera, 203.  
 araneus (Sorex), 58, 59, 62.  
 Archaeopsylla, 360.  
 Arete, 49, 50.  
 areuata (Emberiza), 307.  
 Ardea, 190.  
 Ardeola, 274.  
 Ardetta, 275.  
 ardosiaea (Solanophila), 248.  
 Areva, 228.  
 argentauris (Glycyphila), 345.  
 (Leiothrix), 292.  
 — (Mesia), 292.  
 — (Ptilotis), 345.  
 — (Stigmatops), 342, 344, 345.  
 argentea (Thalatha), 2.



- argentinensis* (Cisthene), 230.  
*argyropila* (Euplexia), 18, 19.  
*Ariola*, 46, 47.  
*Arisada*, 37.  
*armandvillei* (Mus), 92.  
*armatus* (Deuteroerates), 65, 66.  
— (*Xylinades*), 143.  
*arrowi* (Caria), 253.  
— (*Solanophila*), 249.  
*Arses*, 199, 200, 208.  
*Artamus*, 209.  
*arubensis* (Conurus), 84-5.  
*arnensis* (Geoffroyus), 195, 208.  
— (*Monareha*), 199.  
— (*Ptilotis*), 203.  
*Arundinax*, 297.  
*arvensis* (Alauda), 305.  
*Arvicanthis*, 357, 358, 371.  
*Asemorhinus*, 144.  
*asiatica* (Cyanops), 279.  
*aspasia* (Cinnyris), 202, 209.  
*assimilis* (Caemantus), 191, 208, 332, 335.  
— (*Collocalia*), 350.  
— (*Correbia*), 182.  
— (*Ctenophthalmus*), 60, 61, 62.  
— (*Cuculus*), 335.  
— (*Helhura*), 166.  
*astia* (Xenopsylla), 361.  
*astigma* (Museicapula), 325.  
*Astur*, 190.  
*ater* (Parus), 301.  
*atrata* (Pratincola), 320.  
*atratum* (Eucereon), 175.  
*atratns* (Dryobates), 280.  
*atribasalis* (Stenopterygia), 14.  
*atricapilla* (Hedymela), 325.  
— (*Munia*), 307.  
— (*Pitta*), 196.  
*atricapillus* (Pycnonotus), 284.  
*atrinervis* (Antichloris), 154, 155.  
*atrinuehalis* (Sarcogrammus), 273.  
*atrocinata* (Leis), 254.  
*atrosuperciliaris* (Suthora), 292.  
*audaeis* (Dendrobias), 330.  
— (*Dendrobiastes*), 330.  
*Aulis*, 264, 265.  
*aurantia* (Rhagophanes), 218.  
*aurantiaca* (Lambula), 214.  
*aurantifrons* (Loriculus), 195, 208.  
*aurantiipuncta* (Chionaema), 245.  
*aurantioflava* (Iema), 222.  
*aurantiomarginata* (Caprimima), 244.  
*aurantiorufa* (Chionaema), 246.  
*aurantiotestacea* (Iema), 220.  
*aureola* (Emberiza), 307.  
*aureopurpurata* (Garudinia), 233.  
*aureus* (Turdus), 293.  
*auricollis* (Melittia), 123.  
*auricoma* (Solanophila), 249.  
*auricularis* (Porzana), 272.  
*aurifera* (Oeonistis), 225.  
*aurifrons* (Chloropsis), 283.  
*aureofrons* (Phoenicurus), 295.  
*Autanthea*, 45.  
*Autochloris*, 156.  
*Automolis*, 119.  
*Autotela*, 257, 258.  
*azurea* (Aleyone), 207.  
— (*Euagra*), 160.  
*Babax*, 285.  
*baechus* (Ardeola), 274.  
*badia* (Carpophaga), 271.  
*baeticus* (Ctenophthalmus), 59.  
*Balaera*, 119-22.  
*balium* (Helhura), 170.  
*balteata* (Carea), 41.  
*Bambusicola*, 270.  
*banjumas* (Cymnis), 329.  
*Baputa*, 56.  
*barbarus* (Arvicanthis), 357, 358, 371.  
— (*Ceratophyllus*), 361, 362.  
*baroni* (Cyanopepla), 156.  
*barys* (Aphramia), 353, 355.  
*basilanius* (Dendrobiastes), 326.  
— (*Digenca*), 326, 327.  
*basinitens* (Neoscaptia), 240.  
*basiplaga* (Sasunaga), 16.  
*basirostre* (Apion), 118.  
*Basitropis*, 144.  
*batesi* (Balaera), 120.  
— (*Pseudapiconoma*), 120.  
*batjanensis* (Phyllergates), 341, 342.  
*batuensis* (Graecula), 313.  
*Baza*, 190.  
*Beara*, 46.  
*beata* (Cyanopepla), 157.  
*beavani* (Parus), 301.  
*bengalensis* (Alcedo), 277.  
— (*Centropus*), 336-9.  
— (*Cuculus*), 336.  
— (*Rhynehaea*), 274.  
*bennetti* (Aegothales), 196.  
*benschii* (Monias), 373.  
*bernstini* (Eos), 349.  
*bertrandi* (Cidaria), 127.  
*Betula*, 57.  
*Bessacta*, 52.  
*Bhringa*, 309.  
*bicolor* (Lambula), 214.  
— (*Melanocharis*), 202.  
— (*Porzana*), 272.  
— (*Pratincola*), 320.

- bicolor (*Saxicola*), 320.  
 — (*Scaptosyle*), 241.  
 bicornuta (*Chlorochroma*), 75.  
 bicuspis (*Litocerus*), 138.  
 bicti (*Lanthocinela*), 286.  
 — (*Proparus*), 288.  
 bifascia (*Craterestra*), 10.  
 bifasciata (*Agyrta*), 161.  
 — (*Crambida*), 219.  
 — (*Garudinia*), 233.  
 bifasciatus (*Padenodes*), 235.  
 biguttata (*Dysis*), 255, 256.  
 — (*Garudinia*), 233.  
 bimaculata (*Garudinia*), 233.  
 — (*Helina*), 167.  
 — (*Lambula*), 213.  
 — (*Neoseptia*), 239.  
 — (*Sillophora*), 54.  
 bimarginata (*Onychipoda*), 239.  
 binhami (*Iole*), 284.  
 binigrata (*Hyphilare*), 12.  
 binodosum (*Apion*), 117.  
 bipartita (*Baputa*), 56.  
 biplegiata (*Trichaeta*), 123.  
 bipuncta (*Caprimima*), 241.  
 — (*Dadica*), 36.  
 bipunctata (*Monosyntaxis*), 224.  
 biramata (*Isolasia*), 13.  
 birchi (*Agyrta*), 164, 165.  
 birmanus (*Merops*), 277.  
 bisecta (*Agylia*), 226, 227.  
 bistrigata (*Oeonistis*), 225.  
 Bitecta, 223.  
 bivittata (*Scoliacma*), 215.  
 bizonata (*Garudinia*), 233.  
 bizone (*Padenodes*), 234.  
 blainvillii (*Peltops*), 198.  
 blakistoni (*Anthus*), 305.  
 blanfordi (*Prinia*), 299, 309.  
 blasii (*Munia*), 317, 318.  
 Blechroma, 72.  
 Blechromopsis, 72-4.  
 boarula (*Motacilla*), 304.  
 Boeula, 53-6.  
 boliviana (*Correbia*), 181.  
 bolivianum (*Eucereon*), 173.  
 bonthaina (*Cyornis*), 329.  
 — (*Erythromyias*), 327, 329.  
 bonvaloti (*Aegithaliscus*), 301.  
 boreale (*Eucereon*), 173.  
 borealis (*Agyrta*), 165.  
 (*Cyanopepla*), 157.  
 (*Meragra*), 169.  
 (*Motacilla*), 304.  
 (*Phylloscopus*), 298.  
 (*Trichaeta*), 123.  
 bornea (*Eos*), 339-41.  
 borneensis (*Cacomantis*), 333, 334.  
 borneus (*Psittacus*), 339.  
 Bostodes, 37, 38.  
 Bothropterion, 97, 109, 101.  
 boyeri (*Coracina*), 291.  
 — (*Graucalus*), 291.  
 Brachypteryx, 289.  
 brachypus (*Apion*), 109, 114.  
 — (*Trichapion*), 97.  
 brachyrhynchum (*Apion*), 109, 112.  
 — (*Trichapion*), 97.  
 brevicaudata (*Corythoecichla*), 287.  
 brevipes (*Apion*), 108.  
 brevirostris (*Perierocetus*), 283.  
 brevis (*Paraphlocobius*), 145.  
 brienoi (*Ceramidia*), 152.  
 — (*Correbia*), 181.  
 — (*Eucereon*), 174.  
 brinkleyi (*Amyeles*), 154.  
 brodiei (*Glaucidium*), 277.  
 brunnea (*Aerapex*), 35.  
 — (*Baladera*), 121.  
 — (*Nishada*), 216.  
 — (*Suthora*), 292.  
 brunneata (*Bocula*), 55.  
 brunneomarginata (*Lambula*), 212.  
 brunneotibiale (*Apion*), 114.  
 brunneotincta (*Plema*), 222.  
 brunneocens (*Scoliacma*), 215.  
 Bubo, 276.  
 bubo (*Bubo*), 276.  
 Bubuleus, 275.  
 buccoides (*Ailuroedus*), 207, 209.  
 Buelanga, 309.  
 buchwaldi (*Agyrta*), 162.  
 — (*Eucereon*), 172, 179.  
 Budytes, 304.  
 Buphus, 275.  
 burkii (*Cryptolopha*), 282.  
 burmanicus (*Calophasis*), 271.  
 — (*Pycnonotus*), 285.  
 buruensis (*Erythromyias*), 327, 328.  
 Buteo, 276.  
 Butorides, 274.  
 Buzara, 56.  
 Byrsia, 238.  
 calanisi (*Dryobates*), 280.  
 — (*Munia*), 317, 318.  
 Caecina, 195.  
 Caecodinus, 95, 352, 351.  
 Cacomantis, 191, 298, 332, 333.  
 Caecorhinus, 144.  
 caetorum (*Comurus*), 84, 85.  
 Cadus, 140.  
 Caenopsylla, 369.

- caerulata (Cyanis), 329.  
 caeruleatus (Psittacus), 339.  
 caeruleifascia (Balaena), 119.  
 — (Metaretia), 119.  
 caeruleus (Elanus), 276.  
 Calamidia, 223, 224.  
 calamistis (Sesamia), 36.  
 Caligula, 86, 87.  
 callanganum (Apion), 113.  
 — (Trichapion), 97.  
 callerema (Herpolasia), 149.  
 Callicethrus, 191.  
 Calliope, 296.  
 callipyga (Leiothrix), 291.  
 Callizygaena, 146.  
 callocerus (Physopterus), 87.  
 Callopepla, 156.  
 calopistrioides (Data), 28.  
 Calophasis, 271.  
 calopteridia (Correbia), 183.  
 Calornis, 205, 206, 311, 312.  
 campestris (Dipodillus), 359, 365.  
 — (Gerbillus), 367.  
 Campophaga, 283.  
 canadensis (Sitta), 302.  
 canescens (Deuterocrates), 65.  
 canifrons (Spizixus), 285.  
 canis (Ctenocephalus), 58, 360.  
 Canna, 1.  
 canora (Ianthocincla), 286.  
 canorus (Cuculus), 278.  
 cantoroides (Calornis), 206.  
 capensis (Prospalta), 32.  
 — (Rostratula), 274.  
 capitalis (Hemipus), 300.  
 caprata (Motacilla), 319.  
 — (Pratincola), 296, 319-22.  
 Caprima, 149.  
 Caprimima, 241-4.  
 caprimimoides (Lambula), 215.  
 Caprimulgus, 196, 278.  
 carabayana (Eucereon), 179.  
 carbonarius (Dicurus), 205, 209.  
 Carea, 40-44.  
 careoides (Aiteta), 38.  
 Caria, 253.  
 carnefusa (Euplexia), 22.  
 carneola (Euplexia), 26, 27.  
 carneplagiata (Carea), 41.  
 carnipes (Mycerobus), 305.  
 Carpodacus, 306.  
 Carpophaga, 189, 271.  
 Carteia, 50.  
 casarea (Tadorna), 275.  
 casca (Eucereon), 174.  
 cassiens (Cracticus), 204.  
 castanea (Calamidia), 224.  
 castanea (Lambula), 214.  
 — (Macaduma), 236.  
 castaneicauda (Siva), 290.  
 castaneiceps (Cryptolopha), 282.  
 castaneiventris (Caecomantis), 298.  
 castaneofusca (Macaduma), 236.  
 castaneogriseuta (Macaduma), 237.  
 castaneus (Carulinodes), 232.  
 — (Turdus), 293.  
 catenatus (Phloeobius), 67.  
 caucasica (Ctenophthalmus), 365.  
 caudatus (Aegithaliscus), 301.  
 — (Aegithalos), 301.  
 cavicollis (Deuterocrates), 65.  
 celerio (Hippotion), 135.  
 Centropus, 192, 208, 279, 336-9.  
 Cephalopyrus, 302.  
 ceramensis (Erythromyias), 327.  
 Ceramidia, 151-3.  
 Ceratophylli, 363.  
 Ceratophyllus, 59, 360-65.  
 Cerchneis, 276.  
 Certhia, 303.  
 cervicalis (Cyclopsitta), 194.  
 cervinipennis (Euplexia), 24.  
 cerviniventris (Chlamydera), 206.  
 — (Digenea), 328.  
 ceylonensis (Culicicapa), 282.  
 Ceyx, 192.  
 Chaimarrornis, 295.  
 Chalcococcyx, 279.  
 Chalcophaps, 189.  
 chalybata (Manucodia), 206.  
 chalybeocephalus (Monarcha), 199.  
 Chaptia, 309.  
 Charadrius, 273.  
 Chasmina, 36.  
 Chelidon, 281, 365.  
 Chelidorhynchus, 282.  
 cheopis (Xenopsylla), 360.  
 chersinus (Pulex), 361.  
 — (Xenopsylla), 361.  
 Chibia, 309.  
 Chilocorus, 259, 261, 262.  
 chinensis (Excalfactoria), 187.  
 — (Francolinus), 270.  
 — (Pecunus), 280.  
 — (Psittacus), 339.  
 — (Turtur), 272.  
 Chionocitta, 245, 246.  
 chirindica (Solamophila), 247.  
 Chirotenon, 63.  
 chitonea (Heteropan), 147, 148.  
 Chlamydera, 206.  
 Chlensicus, 292.  
 chloris (Glycyphila), 345.  
 — (Stigmatops), 344, 345.

- Chlorochroma, 74-7.  
 Chloropsis, 283, 284.  
 chloropus (Gallinula), 272.  
 Chlootriba, 251, 252.  
 christinae (Cimnyris), 202, 209.  
 chrysaea (Stachyris), 288.  
 Chryschloroma, 78.  
 Chrysococyx, 191.  
 chrysogaster (Gerygone), 198, 208.  
 Chrysolophus, 271.  
 chrysomela (Buzara), 56, 57.  
 — (Monarcha), 199.  
 chrysophrys (Conurus), 85.  
 Chrysoseota, 216.  
 chrysolis (Ptilotis), 203, 207, 209.  
 Cichlops, 316.  
 Cicinnurus, 206.  
 Ciconia, 274.  
 Cidaria, 127.  
 Cincus, 293.  
 cinctum (Eucereon), 172, 173.  
 cinctus (Pallus), 267.  
 cineracea (Buchanga), 309.  
 cinerascens (Anaceraetes), 66.  
 cinereiceps (Lanthocincla), 286.  
 — (Macropygia), 189.  
 cinereicollis (Phyllergates), 341, 342.  
 cinereus (Microsarcoptes), 273.  
 cinnamomea (Ardetta), 275.  
 — (Passer), 305.  
 Cimnyris, 202, 209.  
 cionoides (Apion), 105.  
 circumducta (Buzara), 56.  
 circumscriptus (Calornis), 312.  
 — (Lamprocorax), 312.  
 Circus, 275.  
 Cisthene, 230.  
 Cisticola, 197, 297.  
 citreola (Motacilla), 304.  
 citrinella (Zosterops), 346, 347.  
 clarus (Ptilinopus), 294, 299.  
 cleopatrae (Pulex), 361.  
 — (Xenopsylla), 361.  
 Clinocoris, 93-5, 352.  
 coelestis (Stenoponia), 372.  
 coelSIGNA (Ariola), 16, 47.  
 Coelopterapion, 97, 105.  
 coenobitum (Eucereon), 177.  
 coeruleocephala (Eucereon), 180.  
 coeruleocephala (Heliura), 168.  
 coeruleomarginata (Caprimina), 241.  
 coeruleonitens (Aelytia), 159.  
 — (Sphacia), 122.  
 coeruleus (Caprimina), 243.  
 collaris (Dysis), 258.  
 — (Grus), 274.  
 — (Lotis), 263.  
 collaris (Prunella), 294.  
 Collocalia, 347-51.  
 collyrioides (Lanius), 300.  
 Coloeus, 309.  
 Columba, 189, 271.  
 columbarius (Clinocoris), 93, 94, 95.  
 columnaris (Bessacta), 52.  
 commixta (Stenopterygia), 14.  
 commixtus (Parus), 301.  
 communis (Litocerus), 139.  
 complicata (Euplexia), 26.  
 compsa (Balaera), 121.  
 — (Pseudapiconoma), 121.  
 concinnus (Aegithaliscus), 301.  
 concolor (Hypsipetes), 284.  
 concreta (Cyornis), 329.  
 Condicta, 28-30.  
 confine (Eucereon), 178.  
 confundens (Condicta), 29.  
 confusum (Eucereon), 178.  
 congoensis (Balaera), 120.  
 — (Pseudapiconoma), 120.  
 connexa (Euplexia), 25.  
 connotata (Condicta), 29.  
 Conostoma, 292.  
 consobrina (Chlorochroma), 75.  
 conspicillata (Gerygone), 207, 208.  
 conspicuum (Eucereon), 174.  
 constricticollis (Apion), 102.  
 continua (Tathothripa), 47.  
 Conurus, 84, 85.  
 Coppsychus, 296.  
 Coracias, 277.  
 Coracina, 201, 202.  
 corallina (Dendrophila), 303.  
 Coreura, 158.  
 coromandelianus (Nettopus), 275.  
 coromandus (Bubulcus), 275.  
 — (Buphus), 275.  
 coronatus (Phyllergates), 299, 341, 342.  
 coronulatus (Ptilinopus), 188, 207.  
 Correbia, 180-83.  
 Corvus, 309.  
 Corydalla, 305, 316.  
 Corydonyx, 336.  
 Corythocichla, 287.  
 costipicta (Blechromopsis), 72, 73.  
 Cracticus, 204.  
 Cracupica, 308.  
 Crambida, 219.  
 Cranophorus, 265.  
 crassirostris (Eurystomus), 193.  
 Craterestra, 10.  
 Criniger, 284, 342.  
 criniger (Suya), 239.  
 cristatellus (Aethiopsar), 308.  
 cristatus (Lanius), 309.

- cristulata (Gnoticarina), 65.  
 Crocalis, 126.  
 Crocidura, 357, 359, 362, 367, 371.  
 crucicollis (Litoceus), 139.  
 cruentus (Astur), 190.  
 — (Ithagenes), 270.  
 cruralis (Brachypteryx), 289.  
 Cryptolopha, 282, 322.  
 Ctenophthalmus, 58, 59–62, 360, 361, 365, 367, 370.  
 Ctenucha, 183–5.  
 cucullatus (Orthotomus), 341.  
 — (Phyllergates), 341, 342.  
 Cuculus, 191, 192, 278, 332–7.  
 Culicicapa, 282.  
 Culicipeta, 282.  
 cuprea (Ilema), 221.  
 cupreifascia (Garudinia), 233.  
 cupreonitens (Neoscaptia), 240.  
 curta (Onychipoda), 230.  
 curviplaga (Ilema), 220.  
 Cutia, 291.  
 cyanea (Cyornis), 329.  
 cyaneus (Circus), 275.  
 — (Heteropan), 148.  
 cyaniris (Ctenucha), 184.  
 cyanocephala (Palaeornis), 277.  
 cyanocephalus (Eudynamis), 191.  
 cyanonotus (Eos), 341.  
 — (Psittacus), 341.  
 Cyanopepla, 156, 157.  
 cyanophrys (Suthora), 292.  
 Cyanops, 279.  
 cyanopterum (Apion), 97, 109.  
 Cyanoptila, 323.  
 cyanoptila (Collocalia), 348.  
 cyanoptera (Siva), 290.  
 cyanuropterus (Leiothrix), 290.  
 cyanurus (Tarsiger), 296.  
 cyanus (Monticola), 294.  
 Cyclopsitta, 194.  
 Cyclopsittaenus, 194.  
 Cydonia, 257, 261.  
 cymatodes (Polyptychus), 130, 131, 132.  
 Cyornis, 281, 323–30.  
 Cypselus, 351.  
 dabryi (Aethopyga), 304.  
 Dacia, 36.  
 damalis (Balaera), 121.  
 Dammeria, 326.  
 danaë (Tanysiptera), 193.  
 daphaena (Balaera), 122.  
 — (Pseudapiconoma), 122.  
 dasycnemus (Doratopsylla), 62.  
 — (Typhlopsylla), 62.  
 Dasygaster, 11.  
 Data, 28.  
 dauma (Turdus), 293.  
 dauricus (Coloeus), 309.  
 davisoni (Cyanops), 279.  
 — (Graphocephalus), 274.  
 — (Phylloscopus), 298.  
 dea (Tanysiptera), 193, 207.  
 Decataphanes, 65.  
 decempunctata (Dysis), 256.  
 dedekensi (Pomatorhinus), 286.  
 dejeani (Parus), 300.  
 delicata (Chlorochroma), 75.  
 delineata (Euplexia), 21.  
 Delphire, 165, 166.  
 deminuta (Carteia), 50.  
 Dendrobias, 330.  
 Dendrobastes, 323–31.  
 Dendrocitta, 310.  
 Dendronanthus, 304.  
 Dendrophila, 303.  
 Dendrotrogus, 144.  
 dentata (Amisognathus), 69, 70.  
 dentilinea (Oxyptora), 80.  
 dentitarse (Apion), 114.  
 — (Trichapion), 97.  
 derbyanus (Palaeornis), 277.  
 desgodinsi (Malacias), 289.  
 despectus (Pinarolestes), 205.  
 Deuterocrates, 65, 66.  
 devittatus (Lorius), 194.  
 deyrollei (Pullus), 267.  
 diademata (Yuhina), 290.  
 Dicaeum, 202, 210, 303.  
 dichroides (Parus), 301.  
 dichrous (Parus), 301.  
 Dierum, 205, 209.  
 didymus (Pullus), 267.  
 diffusus (Oriolus), 309.  
 Digenea, 323, 324, 326, 327, 328.  
 diluta (Carea), 40.  
 dilutior (Mithuna), 219.  
 dilutus (Eucereon), 172.  
 dimidiata (Baputa), 56.  
 dimidiatus (Centropus), 336.  
 dipphadmaus (Cyclopsitta), 194.  
 Dioscorea, 78.  
 Dipodillus, 359, 360, 365.  
 Dipterygia, 14.  
 Dipus, 361.  
 Directarius, 141, 142.  
 discalis (Antitype), 125.  
 — (Euplexia), 20.  
 Disoidema, 225, 226.  
 Disphaerona, 89.  
 dissimilis (Blechromopsis), 73.  
 distigma (Chilocorus), 259, 261

- distigma* (Elpidia), 259.  
*distincta* (Chionacma), 245.  
 — (Eupyra), 156.  
 — (Heliura), 166.  
 — (Lotis), 263.  
*diversicolor* (Autanthema), 45.  
*diverus* (Cadus), 140.  
*dodgei* (Collocalia), 349.  
*dogmini* (Cyanopepla), 157.  
 — (Eucceon), 173.  
*dolens* (Heliura), 167, 168.  
*Domicella*, 340.  
*dominiens* (Charadrius), 273.  
*Doratopsylla*, 62.  
*doriae* (Erythrotriorehis), 190.  
 — (Megatriorehis), 190.  
*drucei* (Ectaptera), 185.  
*Drymoipus*, 299.  
*Dryobates*, 280.  
*Dryonastes*, 287.  
*dubia* (Pachycephala), 204, 209.  
*dubius* (Charadrius), 273.  
*dumasi* (Phyllergates), 341, 342.  
*dumetoria* (Erythromyias), 327, 328.  
*dumetorum* (Caecomantis), 335.  
*dumontii* (Mino), 205.  
*duperreyi* (Megapodius), 188.  
*duvivieri* (Solanophila), 249.  
*dyradi* (Marumba), 132.  
*dyras* (Marumba), 133.  
*dysallus* (Litocerus), 138.  
*Dysis*, 254–8.  
*dysonemus* (Caecomantis), 332, 333.
- Eelectus*, 195.  
*Ectaptera*, 185.  
*Ectopatria*, 9.  
*Edolisoma*, 202.  
*egertoni* (Actinodura), 289.  
*ehrmanni* (Automolis), 119.  
 — (Balacra), 119.  
*elachyptera* (Collocalia), 349.  
*elaina* (Aiteta), 39.  
*Elanus*, 276.  
*electrica* (Gelasma), 78.  
*elegans* (Balacra), 121.  
 — (Correbia), 183.  
 — (Cyornis), 329.  
   (Emberiza), 307.  
   (Pericrocotus), 283.  
   (Phasianus), 271.  
   (Pseudapicnoma), 121.  
*Elephantinus*, 359.  
*Eliomys*, 362.  
*elliotti* (Calophasis), 271.  
 — (Lanthocinclis), 286.  
*elliotti* (Trochalopteron), 286.  
*elongata* (Correbia), 180, 181.  
 — (Heliura), 168.  
 — (Onychipoda), 230.  
*Elpidia*, 259, 260.  
*Elwesia*, 13.  
*Emberiza*, 306, 307.  
*emberizinus* (Nelicurvius), 319.  
*Empyreuma*, 155, 156.  
*enganensis* (Graecula), 313, 315.  
*engelkei* (Coreura), 158.  
*engis* (Ctenophthalmus), 366.  
*Enicurus*, 294.  
*ensirostre* (Apion), 118.  
*Eophona*, 305.  
*Eos*, 193, 339, 341.  
*Epicerastes*, 66.  
*Epilachna*, 250, 252.  
*epops* (Upupa), 278.  
*Eressa*, 123, 124.  
*erichi* (Epilachna), 250.  
*erissoni* (Eressa), 124.  
*erinacci* (Archaeopsylla), 360.  
*Eriopus*, 28.  
*eriphia* (Antichloris), 154.  
*Eriphioides*, 151.  
*erithaea* (Pyrrhula), 306.  
*erithaea* (Cyornis), 329.  
 — (Erythromyias), 327, 328, 329.  
*erythrinus* (Carpodacus), 306.  
*erythrocampe* (Scops), 277.  
*erythrogenys* (Pomatorhinus), 286.  
*erythrogaster* (Monticola), 294.  
*Erythromyias*, 323–29.  
*erythropleurus* (Zosterops), 303.  
*erythropterum* (Apion), 110.  
*erythrorhyncha* (Urocissa), 310.  
*Erythrosterna*, 323, 324, 325.  
*erythrothorax* (Lorius), 194.  
*Erythrotriorehis*, 190.  
*esmeralda* (Euplexia), 21.  
*Estrilda*, 308.  
*etorques* (Astur), 190.  
 — (Uroszipias), 190.  
*Euagra*, 160.  
*Eublemma*, 126.  
*Eucceon*, 171–80.  
*Eudynamis*, 191, 279.  
*eugenei* (Myiophonus), 289.  
*Eulabes*, 312.  
*Eumyias*, 283.  
*euonyx* (Anthus), 316.  
*Eupetes*, 197, 207, 209.  
*Euplectes*, 319.  
*Euplexia*, 16–27.  
*eupomia* (Phlebohecta), 149.  
*Eupyra*, 156.

- europaea (Sitta), 302.  
 eurous (Ctenophthalmus), 59, 60.  
 eurychrysa (Buzara), 56.  
 Eurystomus, 193.  
 Eusphalera, 148.  
 Euthyrhynchus, 204.  
 Euxoa, 5, 6.  
 everetti (Phyllergates), 341, 242.  
 exalbata (Anisogamia), 68.  
 exangulata (Euplexia), 16.  
 Excalfactoria, 187.  
 excavata (Encereon), 171, 172.  
 excisa (Garudinia), 234.  
 exilis (Cisticola), 197, 297.  
 Exillis, 143.  
 Exochomus, 261.  
 expansilis (Trichoptya), 53.  
 extensa (Agylla), 227.  
 extensicauda (Prinia), 299, 300.  
  
 falcatus (Polyptychus), 130, 131, 132.  
 Falco, 276.  
 familiaris (Certhia), 303.  
 farreni (Ceratophyllus), 365.  
 fasciata (Josiodes), 229.  
 — (Palaeornis), 277.  
 fasciatella (Chionaema), 245.  
 fasciatus (Ceratophyllus), 360-62.  
 — (Sintor), 137.  
 fascinans (Anisogamia), 69.  
 fascionitens (Neoscaptia), 238.  
 felderi (Correbia), 182.  
 felis (Ctenocephalus), 58, 360.  
 femininus (Carpodacus), 306.  
 — (Propasser), 306.  
 fenestrata (Balacra), 121.  
 — (Pseudapiconoma), 121.  
 fenicheli (Arses), 200.  
 ferrea (Oreicola), 296.  
 ferrugilatus (Pomatorhinus), 287.  
 ferrugineus (Gallus), 271.  
 — (Pitohui), 204, 209.  
 forum-equinum (Rhinolophus), 372.  
 Fidonia, 126.  
 fiebrigi (Apion), 105, 106.  
 — (Coelopteration), 97, 105.  
 figurata (Euplexia), 25.  
 finschi (Ptilotis), 204.  
 flammea (Meliana), 35.  
 flammiceps (Egithalus), 302.  
 — (Cephalopyrus), 302.  
 flava (Motacilla), 304.  
 flavalba (Chionaema), 246.  
 flavens (Nishada), 216.  
 flaveola (Bitecta), 223.  
 flavescens (Pycnonotus), 285.  
 — (Tigrioides), 218.  
  
 flavicaput (Aelytia), 159.  
 — (Encereon), 174.  
 — (Neoscaptia), 239.  
 flaviceps (Ploceus), 319.  
 flavicollis (Ixulus), 291.  
 flavicornis (Agylla), 227.  
 flavicosta (Meekia), 83.  
 flavidiventris (Estrilda), 308.  
 — (Sporaeginthus), 308.  
 flavifimbria (Thalassodes), 82.  
 flavifrons (Eusphalera), 148.  
 flavimacula (Balacra), 120.  
 — (Pseudapiconoma), 120.  
 flaviplaga (Micardia), 38.  
 flavistigma (Hyphilare), 13.  
 flavithorax (Oncyhipoda), 230.  
 flaviventer (Machaerirhynchus), 200, 201.  
 flaviventris (Otocompsa), 285.  
 flavobrunnea (Lambula), 214.  
 flavogrisea (Poliosia), 216.  
 flavovirescens (Microeca), 198.  
 flavula (Hemixus), 284.  
 flavus (Cuculus), 332.  
 flemmingi (Encereon), 176.  
 fluviatilis (Podiceps), 273.  
 foedus (Clinocoris), 94, 95.  
 foghaensis (Zosterops), 347.  
 foliacea (Macaduma), 235.  
 formosanus (Cacorrhinus), 144.  
 — (Habruissus), 143.  
 formosum (Encereon), 173.  
 forsteri (Hirse), 350.  
 fosteri (Ctenucha), 184.  
 — (Encereon), 174.  
 foveipenne (Apion), 103.  
 — (Bothryopteron), 97, 100.  
 fragmentata (Anisogamia), 69.  
 francica (Collocalia), 349, 350, 351.  
 — (Hirundo), 350.  
 Francolinus, 270.  
 Franklinia, 297.  
 fratercula (Alcippe), 288.  
 frenata (Cinnyris), 202.  
 Fringilla, 319.  
 frontalis (Dendrophila), 303.  
 — (Phoenicurus), 295.  
 — (Ruticilla), 295.  
 fruticola (Pratincola), 321.  
 — (Saxicola), 321.  
 fryi (Apion), 105, 107.  
 fucata (Emberiza), 307.  
 fuliginosa (Caprimima), 242.  
 — (Chamaerornis), 295.  
 — (Crocalis), 126.  
 — (Heliura), 168.  
 — (Macaduma), 235.  
 — (Scoliacma), 215.

- fulva (Dysis), 258.  
 fulvescens (Carea), 44.  
 Fulveta, 288.  
 fulvifacies (Abrornis), 282.  
 fulvifrons (Suthora), 292.  
 fulvistrigalis (Bertola), 57.  
 fulviventris (Euthyrhynchus), 204.  
 — (Tricliopsis), 204.  
 fulvus (Charadrius), 273.  
 funnata (Aiteta), 39.  
 — (Heliura), 169.  
 fumipennis (Euxoa), 5.  
 furva (Balacra), 121.  
 — (Hermonassa), 8.  
 fuscata (Eos), 193.  
 fuscatum (Eucereon), 176.  
 fuscatus (Phylloscopus), 298.  
 — (Turdus), 294.  
 fuscescens (Tigrioides), 218.  
 fuscimargo (Chrysochloroma), 78.  
 fuscipennis (Tambana), 5.  
 fusco-brunneum (Eucereon), 177.  
 fuscoirroratum (Eucereon), 177.  
 fusconebulosus (Hepialus), 58.  
 fuscostrigata (Perigea), 33.  
 fuscovirescens (Lamprocorax), 312.  
 fuscus (Limnobaenus), 272.  
 — (Totanus), 273.  
 fytchii (Bambusicola), 270.
- gahani (Dysis), 257.  
 galatea (Tanysiptera), 193, 207.  
 gallinae (Ceratophyllus), 360.  
 Gallinago, 274.  
 gallinago (Gallinago), 274.  
 Gallinula, 272.  
 Gallus, 271.  
 garleppi (Agyrtachena), 161.  
 — (Ctenucha), 184.  
 Garrulax, 287.  
 Garrulus, 310.  
 Garudinia, 233, 234.  
 Garudinodes, 232.  
 Garzetta, 274.  
 garzetta (Garzetta), 274.  
 gaudichaud (Saurocarptis), 193, 207.  
 Gecinus, 279.  
 geelvinkianum (Dicaeum), 202.  
 geisha (Cydonia), 261.  
 geislerorum (Ailuroedus), 207, 209.  
 — (Eupetes), 197, 207, 209.  
 Gelasma, 78.  
 gelastes (Larus), 273.  
 gelida (Caprimima), 243.  
 genestieri (Aleippe), 288.  
 — (Proparus), 288.
- Gennaeus, 270.  
 Geoffroyus, 195, 208.  
 geometricus (Anaceraestes), 66.  
 Gerbillus, 367.  
 germani (Apion), 98, 101.  
 — (Stenapius), 97.  
 germana (Agyrta), 164.  
 — (Balacra), 119.  
 — (Caprimima), 241.  
 — (Correbia), 182.  
 — (Heliura), 167.  
 — (Ilema), 219.  
 Gerygone, 198, 207, 208.  
 gestroi (Buzara), 56.  
 — (Ptilinopus), 188.  
 gibbosus (Physopterus), 87.  
 gigas (Phloeotragus), 64, 145.  
 gilvirostre (Apion), 108.  
 girardi (Cyanopepla), 157.  
 glagoessa (Balacra), 121.  
 — (Pseudapiconoma), 121.  
 glandarius (Garulus), 310.  
 glareolus (Hypudaeus), 58, 59, 60, 62.  
 glauca (Pyrrhaspis), 81.  
 Glaucidium, 277.  
 glaucogularis (Aegithalos), 301.  
 globosus (Seymnus), 267.  
 gloriosa (Balacra), 121.  
 — (Pseudapiconoma), 121.  
 Glycichaera, 203.  
 Glycyphila, 343, 344, 345.  
 Gnoticarina, 65.  
 goliathina (Calamidia), 223.  
 gorhami (Aulis), 265.  
 — (Exochomus), 261.  
 gouldi (Turdus), 293.  
 gracilipalpis (Chasmina), 36.  
 gracilis (Franklinia), 297.  
 Graeula, 312–15.  
 graculus (Pyrrhocorax), 310.  
 Graeupica, 374.  
 grammica (Phaulimia), 142.  
 grandis (Aethiopsar), 308.  
 — (Callopepla), 156.  
 — (Cyornis), 330.  
 — (Niltava), 329.  
 granulata (Arcté), 50.  
 Graphosia, 212.  
 Graphocephalus, 274.  
 Graucalus, 201, 283.  
 gravivox (Pomatorhinus), 286.  
 grisea (Carteria), 51.  
 griseatum (Eucereon), 174.  
 griseatus (Phileros), 186.  
 griseiceps (Pachycephala), 204.  
 griseimargo (Leptosia), 36.  
 griseipuncta (Heliura), 170.



- griseithorax (Rhyacia), 7.  
 griseoflava (Nishada), 217.  
 griseomixta (Aiteta), 39.  
 griseotincta (Reinwardtoena), 189.  
 griseus (Manoba), 231.  
 — (Sesamia), 35.  
 — (Tiracola), 10, 11.  
 grisola (Muscicapa), 326.  
 Grus, 274.  
 grus (Grus), 274.  
 guerini (Gecinus), 279.  
 guineensis (Syntophoderes), 66.  
 gularis (Calornis), 311.  
 — (Hypotaenidia), 272.  
 — (Rhipidura), 200, 208.  
 — (Yuhina), 290.  
 gulgula (Alauda), 305.  
 guttata (Aethomyias), 198.  
 guttatus (Cranophorus), 265.  
 guttula (Monarcha), 199, 208.  
 guttulatus (Pullus), 266.  
 gutturalis (Chelidon), 281.  
 Gynandrocerus, 67.  
  
 habenichti (Pitta), 197.  
 Habrissus, 90, 143.  
 haemalea (Balaera), 120.  
 haematodus (Trichoglossus), 194.  
 Haemosiphon, 352, 356.  
 haemorrhoidatis (Exochomus), 261.  
 halliger (Solanophila), 249.  
 hagar (Antitype), 125.  
 hainanus (Gracula), 314.  
 haitensis (Empyreuma), 156.  
 Haleyon, 192, 193, 207, 277.  
 Haliastur, 190.  
 halioscia (Thalassodes), 82.  
 Halterophora, 78, 79.  
 hamearis (Litocerus), 88.  
 hampsoni (Delphire), 165.  
 — Eucereon), 176.  
 hanicli (Dicaeum), 210.  
 haplopus (Apion), 97, 99, 106.  
 hardwickei (Chloropsis), 284.  
 haringtoni (Oreicola), 296.  
 harterti (Criniger), 342.  
 — (Eudynamis), 279.  
 — (Hemerophila), 127.  
 — (Zosterops), 347.  
 hasseltii (Anthus), 316.  
 Hedymera, 323, 325.  
 heliosyla (Ardea), 190.  
 heliosylus (Zonerodius), 190, 207.  
 Heliura, 166-70.  
 Hemerophila, 127.  
 Hemichelidon, 323.  
  
 Hemipus, 300.  
 hemispila (Nucifraga), 310.  
 Hemixus, 284.  
 henica (Caprima), 149.  
 Henicurus, 294.  
 henkei (Arses), 199, 200.  
 henleyi (Ceratophyllus), 362, 364.  
 henrici (Criniger), 284.  
 — (Dammeria), 326.  
 — (Digenea), 326.  
 hepatica (Carea), 43.  
 Hepialus, 58.  
 Herbivoela, 297.  
 hercules (Mallomys), 92.  
 Hermonassa, 8, 9.  
 Herodias, 274.  
 herona (Anace), 121.  
 — (Balaera), 121.  
 — (Pseudapiconoma), 121.  
 heros (Phloeotragus), 64.  
 Herpolasia, 149.  
 Herse, 350.  
 Heterapion, 97.  
 Heteropan, 146, 147, 148.  
 heterurus (Monarcha), 199.  
 hilaris (Perigea), 33.  
 himalayana (Certhia), 303.  
 himalayensis (Dendrociitta), 310.  
 hippocrates (Papilio), 136.  
 hipposideros (Rhinolophus), 372.  
 Hippotion, 135.  
 Hirundo, 197, 300.  
 hodgsoni (Columba), 271.  
 — (Erythrosterna), 325.  
 — (Motacilla), 304.  
 — (Phoenicurus), 295.  
 hoffmannsi (Aclytia), 160.  
 — (Androcharta), 151.  
 — (Apocerea), 170.  
 — (Eucereon), 180.  
 — (Trichodesma), 158.  
 holti (Iole), 284.  
 honoratus (Eudynamis), 279.  
 Hoplopterus, 273.  
 hosi (Eressa), 124.  
 hottentotta (Chibia), 309.  
 hottentottus (Phloeotragus), 64.  
 humeralis (Litocerus), 88.  
 humilis (Phloeobius), 67.  
 humphreyi (Balaera), 119.  
 huonensis (Ptilinopus), 188, 207.  
 hyacinthinus (Cyornis), 329.  
 Hyalocera, 186.  
 Hyomys, 92.  
 hypenoides (Lasionota), 55.  
 Hyperaspis, 263.  
 h permelaena (Parus), 300.

- hyperythra (Dendrobias), 330.  
   (Dendrobastes), 326, 327, 328-30, 331.  
   (Digena), 326.  
   (Erythrosterna), 325.  
   — (Musciapula), 330.  
 hyperythrus (Dryobates), 289.  
 — (Hypopicus), 289.  
 Hyphilare, 12, 13.  
 hypoenochrous (Lorius), 194.  
 hypoleuca (Coracina), 201, 202.  
 hypoleucus (Tringa), 273.  
 — (Graucalus), 291.  
 — (Lanius), 300.  
 Hypopicus, 289.  
 Hypopteridia, 11, 12.  
 Hypotaenidia, 272.  
 hypoxantha (Chelidiorhynx), 282.  
 Hysipetes, 284.  
 Hypudaeus, 58, 59, 60, 62.  
 Hystriehopsylla, 62, 372.  
 hystriiculum (Apion), 107.  
  
 Ianthocincla, 285, 286.  
 Ictonyx, 361.  
 ignefumosa (Maceda), 48.  
 igneitincta (Minda), 292.  
 ignicauda (Aethopyga), 304.  
 ignipectus (Dicaeum), 303.  
 Ilima, 219-23.  
 imbecilla (Thea), 252.  
 imhoffi (Phloeotragus), 64.  
 imitatrix (Caprimima), 241.  
 immaculata (Prunella), 294.  
 imperialis (Autochloris), 156.  
 impressus (Xylinaes), 143.  
 incisus (Directarius), 142.  
 indentilinea (Chlorochroma), 76.  
 india (Limonidromus), 304.  
 — (Pratineola), 296.  
 indicus (Cacodmus), 353, 354.  
 — (Caprimulgus), 278.  
   — (Dendronanthus), 304.  
   — (Haematosiphon), 356.  
   — (Oriolus), 309.  
 indistincta (Chlorochroma), 77.  
 — (Macaduma), 237.  
 — (Meliphaga), 343.  
 — (Stigmatops), 342-4.  
 infans (Apatenia), 141.  
 infaustus (Cacomantis), 335.  
 informe (Apion), 117.  
 infra-alba (Delphüre), 166.  
 infuscata (Collocalia), 351.  
 innominatus (Picumnus), 289.  
 innexa (Siphia), 331.  
 inornata (Calornis), 311.  
  
 inornata (Hyphilare), 13.  
 — (Prinia), 299, 300.  
 inornatus (Drymoipus), 299.  
 — (Lamprocorax), 311.  
 inquinata (Trichoptya), 53.  
 insignis (Caprimima), 243.  
 insperatus (Cacomantis), 335.  
 insularis (Tridentifrons), 46.  
 insulata (Phyacia), 6, 7.  
 integrum (Eucereon), 172.  
 intensa (Antichloris), 154.  
 intensus (Josiodes), 229.  
 intercedens (Ptilorhis), 209.  
 interjuncta (Maceda), 49.  
 intermedia (Balaera), 129.  
 — (Doratopsylla), 62.  
 — (Graucala), 313, 314, 315.  
 — (Herodias), 274.  
 — (Paradisea), 206.  
 interrupta (Sasunaga), 15, 16.  
 invaria (Anace), 122.  
 — (Balaera), 122.  
 — (Metaretia), 122.  
 Iole, 284, 342.  
 iozonus (Ptilinopus), 188.  
 iris (Neopsittacus), 211.  
 irritans (Pulex), 58, 360.  
 irrorata (Calamidia), 223.  
 isacanthus (Ctenophthalmus), 367.  
 — (Rhadinopsylla), 367.  
 iscatus (Heteropan), 148.  
 Ischnopsylla, 360, 372.  
 Isolasia, 13.  
 isonota (Collocalia), 348, 349.  
 ispida (Macedo), 277.  
 Ithagenes, 270.  
 Ixops, 289.  
 Ixulus, 291.  
 Iyngipicus, 289.  
  
 Jaculus, 359, 364.  
 japonica (Caligula), 86, 87.  
 — (Jynx), 289.  
 japonicus (Cerehneis), 276.  
 — (Falco), 276.  
 — (Tropideres), 140.  
 — (Xylinaes), 143, 144.  
 javana (Graucala), 313, 314, 315.  
 javanensis (Centropus), 336, 337.  
 — (Cuculus), 337.  
 javanica (Butorides), 274.  
 — (Marumba), 133.  
 — (Sterna), 273.  
 javanicus (Centropus), 336.  
 — (Phalacrocorax), 275.  
 javensis (Bessaeta), 52.

- javensis (Canna), 1.  
 jerdoni (Minla), 292.  
 — (Prinia), 299.  
 jobiensis (Talegallus), 187.  
 jonesi (Aclytia), 159.  
 — (Ctenucha), 184.  
 jortipes (Cichlops), 316.  
 Josiodes, 229.  
 jotaka (Caprimulgus), 278.  
 jouyi (Hypotaenidia), 272.  
 junior (Pullus), 267.  
 justiliae (Martinella), 262.  
 juveneus (Marumba), 132, 133.  
 Jynx, 280.  
  
 kalaensis (C'ornis), 329.  
 karu (Lalage), 202.  
 kennedyi (Eucereon), 171.  
 khamensis (Certhia), 303.  
 kirbyi (Antherea), 87.  
 klagesi (Aclytia), 159.  
 — (Agyrta), 162.  
 — (Amycles), 154.  
 — (Androcharta), 151.  
 — (Ceramidia), 151.  
 — (Correbia), 183.  
 — (Delphire), 165.  
 — (Euagra), 160.  
 — (Heliura), 167.  
 — (Trichodesma), 157, 158.  
 kuehni (Pitta), 197.  
 kühni (Eos), 340.  
  
 lactea (Disoidemata), 225.  
 — (Tigriodes), 217.  
 lacteicolor (Agyrta), 161.  
 lacteiplaga (Chrysoseota), 216.  
 lactogrisea (Manoba), 231.  
 Lalage, 202.  
 Lambessa, 118.  
 Lambula, 212-15.  
 Lamprocorax, 311, 312.  
 lanceolata (Epilachna), 250.  
 — (Ianthocinela), 285.  
 lanceolatus (Cuculus), 332.  
 — (Ianthocinela), 285.  
 Lanus, 300.  
 Larus, 273.  
 lasionota, 55.  
 lassum (Apion), 118.  
 lata (Chlorotriba), 251.  
 laticostata (Chlorochroma), 77.  
 latiplaga (Byrsia), 238.  
 latirostris (Muscicapa), 281.  
 laureola (Pseudapiconoma), 121.  
 lauterbachii (Arses), 200.  
 laverani (Ceratomyzillus), 360, 362.  
 lectularius (Clinocoris), 93.  
 Leiothrix, 290-92.  
 Leis, 254.  
 lelex (Napata), 155.  
 lemoulti (Heliura), 168.  
 lempiji (Scops), 277.  
 lepida (Excaecatoria), 187.  
 lepidus (Centropus), 337.  
 leprota (Eucereon), 174.  
 Leptopsylla, 360, 361, 370, 371.  
 leptorhynchus (Apion), 117.  
 Leptosia, 36.  
 leria (Eucereon), 172.  
 lessoni (Aleyone), 207.  
 leucocephala (Chaimarrornis), 295.  
 leucocephalus (Hypsipetes), 284.  
 leucolophus (Callicebthrus), 191.  
 — (Garrulax), 287.  
 leucomelanura (Digenea), 328.  
 — (Muscicapa), 281.  
 leucomelas (Aneurhynchus), 66.  
 leuconota (Columba), 271.  
 leucophaea (Buchanga), 309.  
 Leucopsar, 374.  
 leucopsis (Motacilla), 304.  
 leucopterus (Phoenicurus), 295.  
 leucopygia (Collocalia), 351.  
 leucopygialis (Artamus), 209.  
 leucorhynchus (Artamus), 209.  
 leucorina (Sasunaga), 15.  
 leucothorax (Rhipidura), 200.  
 leucozona (Amata), 123.  
 leucozonoides (Amata), 123.  
 leucura (Notodola), 296.  
 levillantii (Corvus), 309.  
 lewisi (Apolecta), 145.  
 libyca (Ictonyx), 361.  
 lichas (Empyrenna), 155.  
 lichenia (Macaduma), 238.  
 lifuensis (Oconistes), 225.  
 lignator (Centropus), 337.  
 ligneofusca (Hema), 222.  
 limbata (Ptilotis), 344.  
 — (Stigmatops), 344, 345.  
 limbicollis (Dysis), 257, 258.  
 Linnobaemus, 272.  
 Linnodromus, 304.  
 linehi (Collocalia), 347, 348, 349.  
 lineata (Hemionassa), 9.  
 — (Rhaulmia), 142.  
 lineatissima (Sideridis), 12.  
 lineatum (Eucereon), 180.  
 lineosa (Dadica), 36.  
 lithosioides (Eucereon), 176.  
 Litocerus, 88, 138, 139.

- Litotropis, 67.  
 longicaudata (Buchanga), 309.  
 longicorne (Apion), 103, 106.  
 — (Trichapion), 97, 107.  
 longicornis (Exillis), 143.  
 longipes (Habrisus), 143.  
 longiplaga (Sasunaga), 15.  
 longirostris (Tringier), 342.  
 — (Iole), 342.  
 loriate (Pitta), 196.  
 Loriculus, 195, 208.  
 Lorius, 194.  
 lory (Lorius), 194.  
 Lotis, 262, 263.  
 louisiadensis (Hema), 221.  
 Loxaspis, 352, 353.  
 lubecula (Aethopyga), 304.  
 lucisquama (Euplexia), 21.  
 lugubris (Anthus), 315, 316.  
 — (Corydalla), 316.  
 — (Phylloscopus), 298.  
 — (Surniculus), 278.  
 Luscinia, 296.  
 Lusciniola, 297.  
 lutea (Leiothrix), 291.  
 luteiceps (Carteia), 50.  
 lutescens (Hema), 220.  
 luzoniensis (Dendrobiastes), 331.  
 — (Digenea), 326, 327.  
 lycaenoides (Heteropan), 148.  
 lycoides (Correbia), 180.  
 Lymantria, 125.  
 lypsa (Phlebohecta), 149.  
  
 Macaduma, 235-8.  
 macebellandi (Pomatorhinus), 286.  
 Maceda, 48, 49.  
 macei (Graucalus), 283.  
 Machaerirhynchus, 200, 201, 208.  
 Machaerhamphus, 190.  
 machaon (Papilio), 136.  
 macilwraithi (Cyclopsittacus), 194.  
 mackloti (Dicaeum), 210.  
 — (Pitta), 196, 197.  
 macleayi (Halcyon), 192.  
 Macroglossum, 134.  
 Macropteryx, 196, 350.  
 Macropygia, 189.  
 macrorhina (Melidora), 193, 207.  
 macrorhynchus (Corvus), 309.  
 macrurus (Caprimulgus), 196.  
 — (Megalurus), 197.  
 maculata (Agathisopsis), 68.  
 — (Disoidemata), 226.  
 — (Musciapapa), 282.  
 maculatus (Anthus), 304.  
 maculatus (Chalcooecyx), 279.  
 — (Corydonyx), 336.  
 — (Pipastes), 304.  
 maculicollis (Sutoria), 296.  
 maculipennis (Phylloscopus), 298.  
 maderaspatensis (Motacilla), 304.  
 madaraszi (Pinarolestes), 205.  
 magna (Sitta), 302.  
 — (Trichoptya), 54.  
 magnifica (Eurois), 9.  
 — (Megaloprepia), 188, 207.  
 magnirena (Euplexia), 19.  
 magnirostris (Urocissa), 310.  
 major (Anisogamia), 69.  
 — (Cisthene), 230.  
 — (Parus), 301.  
 malabaricus (Spodiopsar), 308.  
 — (Temenuchus), 308.  
 Malacias, 289.  
 malayana (Dendrobiastes), 330.  
 — (Dendrobius), 330, 331.  
 — (Musciapapa), 331.  
 malayensis (Anthus), 315, 316.  
 Mallomys, 92.  
 Malurus, 198.  
 mandarinus (Turdus), 293.  
 Manoba, 231, 232.  
 mansueta (Maceda), 49.  
 Manucodia, 206.  
 manyar (Fringilla), 319.  
 — (Ploceus), 318, 319.  
 marcescens (Eressa), 124.  
 margaritacea (Tigrioides), 217.  
 marginata (Bocula), 56.  
 marginepunctata (Chlorochroma), 77.  
 marginipuncta (Caprimima), 242.  
 maricum (Eucereon), 171.  
 marmoratum (Eucereon), 175.  
 marmoratus (Xylinaes), 143.  
 marshalli (Praedora), 128.  
 — (Pullus), 266.  
 — (Vibidia), 252.  
 Martinella, 262.  
 Marumba, 132, 133.  
 masculana (Rhadinopsylla), 367.  
 massena (Trichoglossus), 194.  
 mathani (Agyrta), 161.  
 — (Ceramidia), 153.  
 maura (Archaeopsylla), 360.  
 — (Pratincola), 296.  
 mauretanicus (Ceratophyllus), 364, 365.  
 maurus (Ceratophyllus), 362.  
 maxima (Luthoeincla), 286.  
 Mecocercus, 63.  
 media (Stigmatops), 343.  
 mediogrisea (Carea), 43.  
 medius (Anthus), 315.

- medius (Centropus), 336, 339.  
 meeki (Hyomys), 92.  
 — (Loriculus), 195, 208.  
 — (Syma), 192.  
 Meekia, 82, 83.  
 meekiana (Coracina), 201.  
 Megaloprepia, 188, 207.  
 megaloptera (Chrysochloroma), 78.  
 Megalurus, 197, 297.  
 Megapodius, 188.  
 megarhynchus (Cuculus), 192.  
 — (Melilestes), 203.  
 — (Pinarolestes), 205.  
 — (Rhamphomantis), 192.  
 megaspila (Blechromopsis), 73, 74.  
 Megatriorchis, 190.  
 melaena (Pseudapiconoma), 121.  
 melanieterus (Melophus), 307.  
 melanocephala (Cisticola), 297.  
 Melanocharis, 202.  
 melanogaster (Sterna), 273.  
 melanoleuca (Muscicapa), 282.  
 — (Muscicapula), 325, 327.  
 melanoleucus (Circus), 275.  
 melanope (Motacilla), 304.  
 melanoperas (Eucereon), 173.  
 melanops (Emberiza), 307.  
 — (Eumyias), 283.  
 — (Stoparola), 283.  
 melanopsis (Monarcha), 198, 208.  
 melanoptera (Campophaga), 283.  
 melanotis (Milvus), 276.  
 melanura (Eophona), 305.  
 melas (Edollisoma), 202.  
 Meliana, 35.  
 melianoides (Aerapex), 35.  
 Melidora, 193, 207.  
 Melilestes, 203.  
 Meliphaga, 343, 344.  
 Melittia, 123.  
 Melittophagus, 278.  
 Melophus, 307.  
 melvillensis (Stigmatops), 344.  
 menadensis (Monarcha), 199, 208.  
 menbeki (Centropus), 192, 208.  
 menea (Cisthene), 230.  
 mcones (Androcharta), 151.  
 Merganser, 275.  
 merganser (Merganser), 275.  
 meridensis (Delphire), 165.  
 meridionalis (Ceratoptyllus), 365.  
 — (Correbia), 183.  
 — (Eucereon), 173.  
 — (Helina), 167, 170.  
 Meriones, 359, 361, 362-5, 370, 372.  
 Merops, 193, 207, 277, 278.  
 merula (Turdus), 293.  
 merulinus (Cacomantis), 279, 332-5.  
 — (Cuculus), 332.  
 Mesia, 292.  
 metallescens (Oocnistis), 225.  
 metallica (Antichloris), 155.  
 metallicus (Calornis), 205, 311.  
 — (Lamprocorax), 311, 312.  
 Metareta, 119-22.  
 meyeri (Chysocoocyx), 191.  
 — (Pucrasia), 270.  
 Micardia, 38.  
 Mieragra, 160.  
 Microcicla, 295.  
 Microdynamis, 191.  
 Microeca, 198.  
 Microsarops, 273.  
 Mierotus, 58, 59, 60, 62.  
 Milvus, 190, 276.  
 miniata (Ectaptera), 185.  
 minima (Correbia), 182.  
 Minla, 292.  
 Mino, 205.  
 Mintopola, 226.  
 minus (Eucereon), 177.  
 minuta (Hyaleucera), 186.  
 — (Lambula), 214.  
 minutus (Sorex), 58.  
 mira (Caenopsylla), 360.  
 Mithuna, 219.  
 Mixochlora, 79.  
 Mixornis, 289.  
 mniszcechi (Mecocercus), 63.  
 moeschleri (Eucereon), 178.  
 molitor (Habrius), 90.  
 — (Polyptychus), 132.  
 molkenboeri (Centropus), 337.  
 mollis (Arisada), 37.  
 — (Boeida), 55.  
 mollissimus (Turdus), 293.  
 moluccensis (Centropus), 339.  
 — (Psittacus), 339.  
 Monarcha, 198, 199, 208.  
 moneta (Euplexia), 19.  
 Monias, 373.  
 moniliata (Proboscidea), 81.  
 Monosyntaxis, 224.  
 montana (Casuarina), 346.  
 montanus (Passer), 306.  
 Monticola, 294.  
 — (Caprimulgus), 278.  
 monticolus (Parus), 301.  
 montigena (Digenea), 326.  
 montium (Sitta), 302.  
 moreleti (Pallus), 267.  
 mosonica (Nesiotra), 141.  
 Motacilla, 58, 304, 319.  
 mozabítica (Eublemma), 126.

- Mucronianus, 140, 141.  
 mugimaki (*Erythrosterina*), 325.  
 mülleri (*Erythromyias*), 327.  
 multicolor (*Euplexia*), 23.  
 — (*Hyperaspis*), 263.  
 multiplicatus (*Uromys*), 91.  
 multistriata (*Dipterygia*), 14.  
 — (*Prunella*), 294.  
 mundipennis (*Rhyacia*), 8.  
 Munia, 307, 317, 318.  
 muraria (*Tichodroma*), 303.  
 murinus (*Polytychus*), 130.  
 Mus, 58, 59, 92, 357-9, 362, 367, 370, 372.  
 Muscicapa, 281, 282, 323, 326.  
 Muscicapula, 323, 324, 325, 326, 327, 330, 331.  
 muscosa (*Anisogamia*), 72.  
 — (*Euplexia*), 24, 25.  
 musculi (*Leptopsylla*), 360, 371.  
 musculus (*Mus*), 357, 359, 367.  
 mussoti (*Zosterops*), 303.  
 mutilata (*Caprima*), 149.  
 Mycerobas, 305.  
 Myiagra, 200.  
 Myiophoneus, 289.  
 mystaceus (*Macropteryx*), 196.  
 Myzornis, 292.  
  
 nagaensis (*Sitta*), 302.  
 naimii (*Malurus*), 198.  
 Napata, 155.  
 narcissina (*Muscicapa*), 281.  
 Nasiterna, 195.  
 nebulifera (*Carea*), 40.  
 nebulilinea (*Carteia*), 51.  
 nebulosus (*Asemorhinus*), 144.  
 neglecta (*Lotis*), 263.  
 — (*Zosterops*), 346, 347.  
 neglectus (*Coloeus*), 309.  
 Nelicurvius, 319.  
 nelvae (*Fidonia*), 126.  
 nemicolus (*Spodiopsar*), 308.  
 Neopsittacus, 211.  
 Neopsylla, 364, 367.  
 Neoseaptia, 238-40.  
 nereis (*Halterophora*), 78.  
 Nerthomma, 142.  
 nervosa (*Ctenucha*), 185.  
 nervulum (*Eucereon*), 179.  
 Nessiara, 88, 141.  
 Nettopus, 275.  
 newtoni (*Phylloscopus*), 297.  
 niasana (*Chionænna*), 246.  
 nigra (*Autotela*), 258.  
 — (*Ciconia*), 274.  
 (Tambora), 5.  
 nigrescens (*Buchanga*), 309.  
 nigricans (*Centropus*), 192.  
 — (*Hirundo*), 197.  
 — (*Petrochelidon*), 197.  
 nigriceps (*Lanius*), 300.  
 — (*Stachyris*), 288.  
 nigricollis (*Graucopica*), 308.  
 — (*Grus*), 274.  
 — (*Sturnopastor*), 308.  
 nigrifrons (*Cyclopsitta*), 194.  
 nigrimacula (*Aiteta*), 38, 39.  
 nigrimentum (*Yuhina*), 291.  
 nigrina (*Phaulimia*), 89.  
 nigripileus (*Pycnonotus*), 285.  
 nigristrois (*Macropygia*), 189.  
 nigrirufa (*Propyria*), 183.  
 nigrobasalis (*Josiodoles*), 229.  
 nigrolineata (*Antichloris*), 154.  
 nigromaculata (*Aeronieta*), 1.  
 nigropictus (*Dentrocercus*), 65.  
 nigroplumbea (*Euplexia*), 17.  
 nigropuncta (*Trichoptya*), 54.  
 nigrorufa (*Ochromela*), 330.  
 nigrerum (*Dendrobiastes*), 331.  
 — (*Digenea*), 326.  
 Niltava, 281, 329.  
 Ninox, 190.  
 nipalensis (*Actinodura*), 289.  
 — (*Anorthura*), 293.  
 — (*Cutia*), 291.  
 — (*Ixops*), 289.  
 — (*Troglodytes*), 293.  
 Nishada, 216, 217.  
 nisoria (*Munia*), 317, 318.  
 nissenii (*Agrotis*), 125.  
 — (*Lymantria*), 125.  
 nisus (*Accipiter*), 276.  
 nitens (*Agyrta*), 163, 164.  
 — (*Helea*), 221.  
 — (*Trichodesma*), 158.  
 nitida (*Calornis*), 311.  
 nitidicutis (*Basitropis*), 144.  
 Nitidula, 323.  
 nitidus (*Lamprocorax*), 311.  
 — (*Phylloscopus*), 298.  
 niveata (*Helea*), 222.  
 nivetaeta (*Eriopus*), 28.  
 notata (*Correbia*), 182.  
 — (*Ptilotis*), 203.  
 Notolela, 296.  
 novaeguineae (*Euplexia*), 18.  
 — (*Philemon*), 204, 209.  
 novaehollandiae (*Scythrops*), 192.  
 novus (*Machaerirhynchus*), 200, 201.  
 nubicus (*Xenopsylla*), 361.  
 nubifera (*Blechnomopsis*), 72, 73, 74.  
 nubiferella (*Beara*), 46.  
 nubilosus (*Eucereon*), 179.

- Nueifraga*, 310.  
*nunenmacheri* (Apion), 97, 98.  
*nupta* (Stigmatops), 344.  
*nycthemerus* (Gennaeus), 270.
- oberholseri* (Collocalia), 347, 348.  
*obliquifascia* (Eucereon), 175.  
*oblita* (Pitta), 197.  
*obscurus* (Lamprocorax), 312.  
*obtusus* (Ctenophthalmus), 60, 61, 62.  
*occidentalis* (Caprimima), 243.  
*occipitalis* (Isculus), 291.  
 — (Picus), 279.  
 — (Urocissa), 310.  
 — (Yuhina), 291.  
*ocellatus* (Podargus), 196.  
*ochracea* (Balacra), 120.  
 — (Ortalia), 263.  
 — (Perigea), 32.  
 — (Pseudapionoma), 120.  
*ochrisquamata* (Prospalta), 30.  
*Ochromela*, 323, 324, 330.  
*ochropterum* (Apion), 97, 103, 110.  
*ochropus* (Tringa), 273.  
*ochruros* (Phoenicurus), 295.  
*oekendemi* (Agyrta), 163.  
 — (Eucereon), 180.  
 — (Heliura), 169.  
 — (Hyalocera), 186.  
 — (Phileros), 185.  
 — (Propyria), 183.  
*oetnotata* (Ortalia), 264.  
*ocularis* (Conurus), 84, 85.  
 — (Glycyphila), 343, 344, 345.  
 — (Stigmatops), 343, 344, 345.  
*oculatus* (Cacorrhinus), 144.  
 — (Mecocerus), 63.  
*Oeciacus*, 352.  
*oenistis* (Sasunaga), 16.  
*Oeonistis*, 225.  
*olivacea* (Nessiara), 88.  
 — (Perigea), 33.  
*olivaria* (Sasunaga), 15.  
*Onychipoda*, 230.  
*opaca* (Phileros), 185, 186.  
*Opisthocornus*, 374.  
*optatus* (Cuculus), 191, 278.  
*Oreicola*, 296.  
*orientalis* (Arses), 199, 200, 208.  
 — (Delphire), 165.  
 — (Dipus), 361.  
 — (Eudynamis), 191, 279.  
 — (Gallinula), 272.  
 — (Jaculus), 359, 364.  
 — (Mameodia), 206.  
 — (Merops), 277.  
*orientalis* (Turtur), 271.  
*Oriolus*, 205, 308, 309.  
*Ormiscus*, 141.  
*ornatus* (Merops), 193, 207.  
*Ortalia*, 263, 264.  
*Orthotomus*, 341.  
*ossicolor* (Hyphilare), 12.  
*otidocephaloides* (Apion), 103, 104.  
 — (Stenapion), 97, 104.  
*Otocompsa*, 285.  
*oustaleti* (Lanthocincla), 286.  
*ovata* (Lotis), 262.  
*Oxypora*, 79, 80.  
*Ozola*, 68.
- Pachycephala*, 204, 209.  
*pachyrhynchum* (Apion), 101.  
*Padenia*, 234.  
*Padenodes*, 234, 235.  
*painei* (Ceramielia), 152.  
*Palaeopsylla*, 62.  
*Palaeornis*, 277.  
*palaivanensis* (Gracula), 313, 314, 315.  
*pallasii* (Cinclus), 293.  
*pallescens* (Eucereon), 177.  
*palliocta* (Macaduma), 236.  
*pallida* (Trichoptya), 54.  
 (Yuhina), 291.  
*pallidimaculata* (Stictosia), 244.  
*pallidior* (Byrsia), 238.  
*pallidipectus* (Dendrobias), 330, 331.  
*pallidipennis* (Prospalta), 32.  
 — (Tambana), 5.  
*pallidistigma* (Rhyacia), 7.  
 — (Tiracola), 10, 11.  
*pallidithorax* (Ariola), 46.  
*pallidus* (Pterythius), 292.  
 — (Turdus), 293.  
*palmeira* (Ctenucha), 184.  
*palpebrosa* (Zosterops), 303, 346, 347.  
*palustris* (Megalurus), 297.  
 — (Parus), 300.  
*pando* (Monticola), 294.  
*pantherinus* (Aneurhynchus), 66.  
*papei* (Pharosymnus), 268.  
*Papilio*, 136.  
*papua* (Rhyacia), 6.  
*papuensis* (Arcte), 49.  
 — (Carea), 44.  
 — (Coracina), 201.  
 (Graculus), 201.  
 — (Podargus), 208.  
 — (Trisaloides), 3.  
*Paradisea*, 206.  
*parumbae* (Eucereon), 178.  
*Paraphilocolobus*, 145.

- paraplesia (Apoleeta), 145.  
 parenthesis (Thea), 252.  
 Parodontis, 360.  
 Parus, 300, 301.  
 parva (Erythrosterna), 325.  
 — (Microlymnis), 191.  
 — (Trichodesma), 158.  
 parvirostris (Phylloscopus), 322.  
 Passer, 305, 306.  
 passerinus (Cacomantis), 335.  
 Pasteosia, 228.  
 patasiwa (Stigmatops), 345.  
 patrona (Eucereon), 173.  
 patronides (Eucereon), 173.  
 pavie (Litorerus), 88, 138.  
 pectinata (Bessacta), 52.  
 — (Euplexia), 16.  
 pectiniceps (Leptopsylla), 371.  
 pectoralis (Calliope), 296.  
 — (Eelectus), 195.  
 — (Garulax), 287.  
 — (Luscinia), 296.  
 peculiare (Apion), 117.  
 pedias (Ceratophyllus), 59.  
 Peltops, 198.  
 penicilliger (Ceratophyllus), 59.  
 pentacanthus (Ctenophthalmus), 62.  
 — (Rhadinopsylla), 367.  
 peraffinis (Caprimimus), 242.  
 perexcavatum (Eucereon), 171.  
 Pericrocotus, 283.  
 Perigea, 32-5.  
 pernyi (Dryobates), 280.  
 perplexa (Hema), 219.  
 — (Stigmatops), 343.  
 — (Trichodesma), 158.  
 persimilis (Monosyntaxis), 224.  
 personatus (Geoffroyus), 195, 208.  
 pertinax (Conurus), 84, 85.  
 peruviana (Hirundo), 359.  
 perviridis (Eurois), 9.  
 Petrochelidon, 197.  
 phacoma (Heliura), 167.  
 Phalaerocorax, 275.  
 Pharoscyminus, 267, 268.  
 Phasianus, 271.  
 Phaulinia, 89, 142.  
 playrei (Aleippe), 288.  
 phemonides (Ceramidia), 153.  
 Philemon, 204, 209.  
 Phileros, 185, 186.  
 philippensis (Podiceps), 273.  
 philippinus (Merops), 278.  
 — (Phyllergates), 341, 342.  
 Philobotheca, 149.  
 Philobobus, 66, 67, 145.  
 Philocomys, 92.  
 Philocotragus, 64.  
 Philoophilus, 63, 88.  
 phoeniceura (Amauromnis), 272.  
 Phoenicurus, 295.  
 Phragmaticola, 297.  
 phycus (Xylinades), 144.  
 Phyllergates, 299, 341, 342.  
 phyllorthaphea (Sutoria), 296.  
 Phylloscopus, 297, 298, 322.  
 Physopterus, 87.  
 Pica, 310.  
 pica (Pica), 310.  
 picoides (Eucereon), 177.  
 picticollis (Antotela), 257.  
 — (Cydonia), 257.  
 pictus (Pharoscyminus), 267.  
 Picumnus, 280.  
 Picus, 279.  
 pieroides (Heliura), 169.  
 pierus (Heliura), 169.  
 piloti (Eucereon), 175.  
 Pinarolestes, 205.  
 Pipastes, 304.  
 Pitohui, 204, 209.  
 Pitta, 196, 197.  
 plagiata (Caprima), 150.  
 — (Pasteosia), 228.  
 — (Tiracola), 11.  
 plagosus (Chrysococcyx), 191.  
 — (Padenodes), 235.  
 platyrhyncha (Anas), 275.  
 Ploceus, 318, 319.  
 plumbeitarsus (Phylloscopus), 298.  
 plumbeus (Synoicus), 187.  
 plumbipes (Turnix), 271.  
 plumipes (Buteo), 276.  
 plumosus (Scaptosyle), 240.  
 Podargus, 196, 208.  
 podicalis (Philobobus), 66.  
 Podiceps, 273.  
 Poecilodryas, 322, 326.  
 poecilopsis (Parus), 301.  
 poecilurus (Chrysococcyx), 191.  
 poecilus (Tropideres), 139, 140.  
 poliocephala (Glycichaera), 203.  
 poliocephalus (Cuculus), 278.  
 Poliomyias, 323, 325.  
 poliopras (Philocotragus), 64.  
 Polioesia, 216.  
 poliura (Megaloprepia), 188, 207.  
 polygrammica (Lalage), 202.  
 polyphaenaria (Trisuloides), 3.  
 Polyphasia, 333.  
 Polypptychus, 128, 129-32.  
 polyspila (Bessacta), 52.  
 Pomatorhinus, 286, 287, 373.  
 pomonae (Chlorochroma), 76.



- poppei (Typhloceras), 360, 370.  
 portoricensis (Empyreuma), 155.  
 Porzana, 272.  
 postcoeruleum (Eucereon), 171.  
 postexpansa (Caprimima), 242.  
 postflavida (Helibra), 167, 168.  
 posticatus (Deeataphanes), 65.  
 postimparilis (Agylla), 228.  
 postlineata (Craterestra), 10.  
 postnigra (Caprimima), 243.  
 postvitrea (Caprimima), 243.  
 praeceox (Gynandrocerus), 67.  
 Praedora, 128.  
 praeseeta (Prospalta), 30.  
 praetermissa (Rhyacia), 6.  
 prasinus (Phloeotragus), 64.  
 Pratincola, 296, 319-22, 325.  
 praeussi (Balacra), 121.  
 — (Metarectia), 121.  
 Prinia, 299, 300.  
 priva (Phaalimia), 89.  
 Proboloseeles, 80, 81.  
 Proparus, 288.  
 Propasser, 306.  
 propinqua (Cydonia), 261.  
 Propyria, 183.  
 Propyrrhula, 306.  
 proregulus (Phylloscopus), 297.  
 proserpina (Solanophila), 249.  
 Prospalta, 30-32.  
 protomelaenus (Turdus), 293.  
 providus (Liotropis), 67.  
 provincialis (Ctenophthalmus), 59, 60.  
 Prunella, 294.  
 prusias (Cisthene), 230.  
 Pseudapicnoma, 119-22.  
 pseudohisecta (Agylla), 227.  
 pseudodelphice (Agyrta), 164.  
 pseudogelida (Caprimima), 243.  
 pseudolelex (Napata), 155.  
 Psittacus, 339, 341.  
 Pterythius, 291, 292.  
 Ptilinopus, 188, 207.  
 ptilogenys (Gracula), 313, 315.  
 Ptilorhis, 209.  
 Ptilotis, 203, 204, 207, 209, 344, 345.  
 Pucrasia, 270.  
 pugnax (Turnix), 271.  
 pulchella (Malacia), 289.  
 pulchellus (Ptilinopus), 188.  
 pulcher (Phylloscopus), 297.  
 pulcherrimus (Carpodacus), 306.  
 pulchra (Balacra), 121.  
 pulchiformis (Agyrta), 163.  
 pulchripes (Apion), 118.  
 Pulex, 58, 266, 267, 360, 361, 370.  
 pulverosa (Prospalta), 32.  
 pumila (Agyrta), 165.  
 pumilis (Centropus), 337.  
 punctata (Agathia), 72.  
 — (Ortalia), 264.  
 punctatum (Eucereon), 172.  
 punctipennis (Decataplures), 65.  
 punctulata (Mania), 317, 318.  
 purpurascens (Calornis), 311.  
 purpureiceps (Calornis), 312.  
 — (Lamprocorax), 312.  
 pusilla (Emberiza), 306.  
 — (Porzana), 272.  
 pusio (Nasiterna), 195.  
 pustulosus (Phloeobius), 67.  
 Putorius, 60.  
 pyaria (Trisuloides), 2.  
 Pyenonotus, 284, 285.  
 Pyenopygius, 204.  
 Pyenorhamphus, 305.  
 Pyctorhis, 287.  
 pygmaeus (Dryobates), 280.  
 — (Phalacrocorax), 275.  
 pyralia (Hema), 220.  
 Pyrriaspis, 81.  
 Pyrrhocorax, 310.  
 pyrthonota (Erythronyxias), 327, 328.  
 Pyrrhula, 306.  
 pyrthura (Myzornis), 292.  
 quadricolor (Eucereon), 173.  
 quadrifascia (Lasiodes), 229.  
 quadrilineata (Dysis), 254.  
 — (Mithuna), 249.  
 quadripunctata (Hema), 223.  
 quercifolia (Macaduma), 237.  
 quercinus (Eliomys), 362.  
 querulus (Cacomantis), 332, 333, 334.  
 radians (Euxoa), 5, 6.  
 radiata (Mixochlora), 79.  
 ramesis (Pulex), 361.  
 — (Xenopsylla), 361.  
 rannensis (Gerygone), 207, 208.  
 rasselli (Corydalla), 316.  
 ratrayi (Balacra), 120.  
 — (Pseudapicnoma), 120.  
 rebecca (Antitype), 125.  
 rectifascia (Data), 28.  
 rectunguis (Centropus), 337.  
 recurvifolia (Garudnodes), 232.  
 reducta (Aelyta), 169.  
 — (Anisogramma), 79.  
 — (Byrsia), 238.  
 — (Ctenucha), 184, 185.  
 — (Macaduma), 236.

- regius (Cinnurus), 296.  
 Regulus, 302.  
 regulus (Regulus), 302.  
 reichenowi (Collocalia), 350.  
 reinwardtii (Baza), 190.  
 Reinwardtoena, 189.  
 reinwardtsi (Reinwardtoena), 189.  
 rejeta (Chasmina), 36.  
 religiosa (Gracula), 312, 313, 315.  
 remifer (Bhringa), 309.  
 renalba (Eetopatria), 9.  
 repandus (Mucronianus), 141.  
 resplendens (Euplexia), 22.  
 reticulata (Calamidia), 224.  
 — (Graphosia), 212.  
 retuso (Polyptychus), 128.  
 retusus (Polyptychus), 128, 129, 130, 132.  
 reversa (Hypopterydia), 12.  
 — (Pyrhaspis), 81.  
 rex (Parus), 301.  
 Rhadinopsylla, 367.  
 Rhagophanes, 218.  
 Rhamphomantis, 192.  
 rhasiana (Scoliacma), 215.  
 Rhinocetus, 373.  
 Rhinolophus, 372.  
 Rhinomyias, 323.  
 Rhipidura, 200, 208, 282.  
 rhombus (Mecocercus), 63.  
 Rhyacia, 6-8.  
 Rhynchoea, 274.  
 Rhynchota, 352.  
 richardi (Anthus), 305, 315, 316.  
 — (Corydalla), 305.  
 riedeli (Erythromyias), 327.  
 — (Phyllergates), 341, 342.  
 riggenbachi (Pariodontis), 360.  
 Riparia, 281.  
 ripponi (Abrornis), 283.  
 — (Carpodacus), 306.  
 — (Prunella), 294.  
 robusta (Gracula), 313, 315.  
 roelofsi (Tropideres), 139, 140.  
 roseata (Spintherops), 126.  
 roseatus (Anthus), 305.  
 — (Carpodacus), 306.  
 roseipennis (Eetaptera), 185.  
 rosenbergi (Eriphioides), 151.  
 — (Encereon), 173.  
 rosenhaueri (Seymnus), 267.  
 rosens (Pericrocotus), 283.  
 rossorum (Pratineola), 320.  
 Rostratula, 274.  
 rostrifera (Euplexia), 16.  
 rothschildi (Eos), 340.  
 — (Leucopsar), 374.  
 — (Mallomys), 92.  
 rothschildi (Uromys), 91.  
 rotundimacula (Maceda), 48.  
 rotustus (Ptilocobinus), 66.  
 rouxi (Ixulus), 291.  
 rouzeti (Pharoscymnus), 268.  
 rozeti (Elephantinus), 359.  
 rubecula (Myiagra), 200.  
 rubeculoides (Cyornis), 281, 329, 330.  
 rubellifrons (Thalassodes), 82.  
 ruber (Psittacus), 339.  
 rubricapilla (Mixornis), 289.  
 rubricatus (Lyngipicus), 280.  
 rubriceps (Phileros), 185, 186.  
 rubricincta (Balaca), 121.  
 — (Pseudapiconoma), 121.  
 rubripileum (Neopsittacus), 211.  
 rubrisuffusa (Perigea), 34.  
 rubritincta (Chrysochloroma), 78.  
 rubroanale (Encereon), 172, 173.  
 rubroanalis (Agyrta), 161.  
 rubrocincta (Heliura), 167.  
 rubrocoronatum (Dicacum), 202.  
 rubrofasciata (Agylla), 226.  
 rubrostriata (Balaca), 122.  
 rubrovenata (Ctenucha), 184.  
 rubrovitta (Metareta), 121.  
 — (Pseudapiconoma), 121.  
 rufescens (Correbia), 181.  
 — (Maceda), 48.  
 — (Stigmatops), 343.  
 — (Tigrioides), 218.  
 rufescenti (Phaulimia), 142.  
 rufibasis (Maceda), 49.  
 ruficeps (Chlenasiacus), 292.  
 — (Suthora), 292.  
 ruficollis (Pomatorhinus), 287.  
 — (Turdus), 294.  
 ruficrista (Aegeria), 122.  
 rufidorsa (Rhipidura), 200.  
 rufidorsale (Encereon), 179.  
 rufifrons (Chionacma), 246.  
 — (Cyornis), 329.  
 rufigaster (Carpophaga), 189.  
 rufigula (Cyornis), 329.  
 — (Digenea), 326.  
 rufilatus (Tarsiger), 295.  
 rufimargo (Chlorochroma), 75, 76.  
 — (Tiracola), 10.  
 rufinotata (Chlorochroma), 77.  
 rufipes (Heliura), 170.  
 rufisecta (Bostrodus), 38.  
 rufistigma (Chionacma), 245.  
 rufistriga (Chlorochroma), 75.  
 rufiventris (Caecomantis), 279.  
 — (Delphire), 165.  
 — (Phoenicurus), 295.

- rufiventris* (Polyphasia), 333.  
 — (Pterythius), 291.  
*rufocostalis* (Macaduma), 236.  
*rufofasciata* (Hema), 219.  
*rufotincta* (Manoba), 231.  
*rufoumbata* (Macaduma), 237.  
*rufula* (Aiteta), 39.  
*rufulus* (Anthus), 305, 315, 316.  
*rupestris* (Riparia), 281.  
*russula* (Crocidura), 357, 359, 362, 367, 371.  
*russulac* (Ctenophthalmus), 365.  
*russus* (Philoophilus), 88.  
*rustica* (Chelidon), 281.  
 — (Pica), 310.  
*rusticola* (Scolopax), 274.  
*Ruticilla*, 295.  
*rutilans* (Passer), 305.  
*ruwenzorica* (Aulis), 265.
- sagittaria* (Bostrodes), 37.  
*salmoni* (Caligula), 86, 87.  
*salvadorii* (Nasiterna), 195.  
 — (Palacornis), 277.  
*samarensis* (Digenca), 326, 327.  
*sancta* (Haleyon), 193, 207.  
*sanguiceps* (Micraga), 160.  
*sanguinea* (Empyreuma), 155.  
*sanguinipectus* (Aethopyga), 303.  
*sanguinolenta* (Elpidia), 260, 261.  
*sanguinolentum* (Dicaeum), 210.  
*sanguinolentus* (Elpidia), 261.  
*sanguinosa* (Empyreuma), 155.  
*sannio* (Dryonastes), 287.  
*sapphira* (Musciapula), 281.  
 — (Musciapula), 325.  
*sapphire* (Lamprocorax), 311.  
*sarasinorum* (Centropus), 338, 339.  
*Sarcogrammus*, 273.  
*Sasunaga*, 15, 16.  
*saturata* (Cerchneis), 276.  
 — (Gelasma), 78.  
 — (Upupa), 278.  
*saularis* (Copsycheus), 296.  
 — (Graecula), 312.  
*Sauromarptis*, 193, 207.  
*Saxicola*, 320, 321.  
*scalata* (Craterestra), 10.  
*Scaptosyle*, 240.  
*scapularis* (Cydonia), 261.  
*schaeh* (Lanius), 300.  
*schausi* (Ctenucha), 183.  
 — (Eucereon), 175.  
*schisticeps* (Phoenicurus), 295.  
*schlegelii* (Domicella), 340.  
*Schwaneria*, 323, 329.  
*schwarzi* (Herbivocula), 297.
- schwarzi* (Lusciniola), 297.  
*scintillans* (Heteropan), 148.  
*scintilliceps* (Dryobates), 280.  
 — (Lynggipicus), 280.  
*scintillocollaris* (Ceramidia), 152.  
*sciurorum* (Ceratophyllus), 59.  
*Scoliaema*, 215.  
*Scolopax*, 274.  
*Scops*, 277.  
*scouleri* (Microcichla), 295.  
*scriptus* (Anacerastes), 66.  
*scudleri* (Antichloris), 155.  
*Scythrops*, 192.  
*seheriae* (Aethopyga), 304.  
*sejuncta* (Trichoptya), 53.  
*sellata* (Martinella), 262.  
*sellatus* (Habriussus), 90.  
*sellifer* (Habriussus), 90.  
*semicoronatus* (Dryobates), 280.  
*semidivisa* (Agylia), 227.  
*semifasciata* (Macroglossum), 134.  
*semihyalina* (Agyrta), 164.  
*semilarvatus* (Eos), 340.  
*semilineata* (Anisogamia), 70.  
*semirufa* (Perigea), 34.  
*sepulchralis* (Caemantis), 332, 333-5.  
 — (Cuculus), 334.  
*sericea* (Helhura), 167.  
 — (Lambula), 212, 213.  
 — (Pica), 310.  
 — (Trisuloides), 3.  
*sericeoalba* (Hema), 221.  
*sericeoides* (Lambula), 212.  
*serratilinea* (Chlorochroma), 77.  
*Sesamia*, 35, 36.  
*setosa* (Rhipidura), 200, 208.  
*setulosus* (Pharosymnus), 268.  
*sexguttata* (Dysis), 256.  
*sexpuncta* (Eressa), 124.  
*seyton* (Eucereon), 175.  
*sharpci* (Ptilotis), 203.  
*sharpi* (Aulis), 264.  
*shawi* (Meriones), 359, 361, 362-5, 370, 372.  
*siamensis* (Acridotheres), 308.  
*Sideridis*, 12.  
*signata* (Solanophila), 248.  
*signellus* (Tropidoceres), 140.  
*Sillophora*, 54.  
*silvaticus* (Mus), 58, 59.  
*similis* (Chnootriba), 252.  
 — (Correbia), 182.  
 — (Trichodesma), 158.  
*simla* (Caligula), 86.  
*simoni* (Elpidia), 259, 261.  
*simonsi* (Correbia), 182.  
*simplex* (Beara), 46.  
 — (Ceramidia), 152.

- simplex (*Dioscورا*), 78.  
 — (*Zosterops*), 303, 346.  
*sinensis* (*Ardeetta*), 275.  
 — (*Centropus*), 279.  
 — (*Enicurus*), 294.  
 — (*Garrulus*), 310.  
 — (*Henicurus*), 294.  
 — (*Pycnorhis*), 287.  
 — (*Trochissa*), 310.  
*Sinton*, 137.  
*sinuato-collis* (*Xylina*des), 66.  
*Siphia*, 323, 324, 325, 330, 331.  
*Sitta*, 302.  
*Siva*, 290.  
*sladeni* (*Phasianus*), 271.  
*smaragditera* (*Euplexia*), 21.  
*smaragdina* (*Euplexia*), 21.  
*smaragdistis* (*Euplexia*), 21.  
*smyrnensis* (*Haleyon*), 277.  
*sobrinus* (*Leptopsylla*), 371.  
*Solanophila*, 247-9.  
*solitaria* (*Ceyx*), 192.  
 — (*Gallinago*), 274.  
*solitarius* (*Monticola*), 294.  
*sordida* (*Mantopola*), 226.  
 — (*Padenia*), 234.  
 — (*Siva*), 290.  
*sordidescens* (*Eucereon*), 179.  
*sordidior* (*Cecinus*), 279.  
 — (*Picus*), 279.  
 — (*Proparus*), 288.  
*sorecis* (*Palaeopsylla*), 62.  
*Sorex*, 58, 59, 62, 357.  
*soubei* (*Actinodura*), 289.  
 — (*Cinclus*), 293.  
 — (*Spilaeornis*), 293.  
*spectabilis* (*Marumba*), 133.  
*speculigera* (*Pseudalopionoma*), 121.  
*Spilaeornis*, 293.  
*Sphecia*, 122, 123.  
*Sphenocereus*, 271.  
*sphenurus* (*Haliastur*), 190.  
 — (*Milvus*), 190.  
 — (*Sphenocereus*), 271.  
*spilodera* (*Aethonyxias*), 198.  
*spilonotum* (*Macroglossum*), 134.  
*spilosa* (*Rhyacia*), 6.  
*spilota* (*Oxyptora*), 89.  
*spinoletta* (*Anthus*), 305.  
*Spitherops*, 126.  
*Spinus*, 305.  
*Spizias*, 285.  
*splendens* (*Cama*), 1.  
*Spodiopsa*, 308.  
*spodiopygia* (*Hirundo*), 350.  
*spodiopygius* (*Macropteryx*), 350.  
*spodoccephala* (*Emberiza*), 307.  
*Sporacanthus*, 308.  
*spurrelli* (*Polyptychus*), 128, 129.  
*squamata* (*Lanthocincla*), 285.  
*Stachyridopsis*, 288.  
*Stachyris*, 288.  
*stalkerii* (*Coracina*), 201.  
*Staphidia*, 290.  
*staudingeri* (*Lambessa*), 118.  
*steinbacheri* (*Antichloris*), 155.  
 — (*Correbia*), 182.  
 — (*Eucereon*), 172.  
*stellata* (*Dadica*), 36.  
*Stenapion*, 97, 102, 104, 116.  
*Stenoponia*, 360, 370, 372.  
*Stenopterygia*, 14.  
*stenotherium* (*Apion*), 103.  
 — (*Stenapion*), 97, 102.  
*stephani* (*Chalcophaps*), 189.  
*Sterna*, 273.  
*stibinus* (*Xylina*des), 143.  
*stictica* (*Nerthomma*), 142.  
*sticticus* (*Litocerus*), 138.  
*stictocephalus* (*Pycnopygius*), 204.  
*Stictosia*, 244, 245.  
*stigmatias* (*Rhyacia*), 7.  
*stigmatica* (*Cartea*), 59.  
 — (*Hermonassa*), 8.  
 — (*Lotis*), 263.  
 — (*Pseudalopionoma*), 121.  
*Stigmatops*, 342, 343-5.  
*stillatus* (*Pharosymmus*), 268.  
*stolli* (*Helina*), 170.  
*Stoparola*, 283.  
*streichi* (*Falco*), 276.  
*striata* (*Hypotaenidia*), 272.  
*striatocollis* (*Fulvetta*), 288.  
 — (*Proparus*), 288.  
*striatifrons* (*Xylina*des), 143.  
*striatum* (*Eucereon*), 177.  
*striatus* (*Euplectes*), 319.  
 — (*Oriolus*), 205.  
*strigicosta* (*Chlorochroma*), 75-7.  
*strigilmeata* (*Eriopus*), 28.  
*strigula* (*Siva*), 290.  
*striolatus* (*Anthus*), 315, 316.  
 — (*Picus*), 279.  
*strix* (*Eucereon*), 176.  
*strophilata* (*Muscicapa*), 281.  
 — (*Prinella*), 294.  
 — (*Siphia*), 324, 325.  
*Sturnopastor*, 308.  
*styani* (*Lanthocincla*), 286.  
 — (*Pomatorhinus*), 287.  
 — (*Suthora*), 292.  
*suapurensis* (*Josiodes*), 229.  
*suballinis* (*Phylloscopus*), 298.  
*subalaris* (*Coracina*), 201.

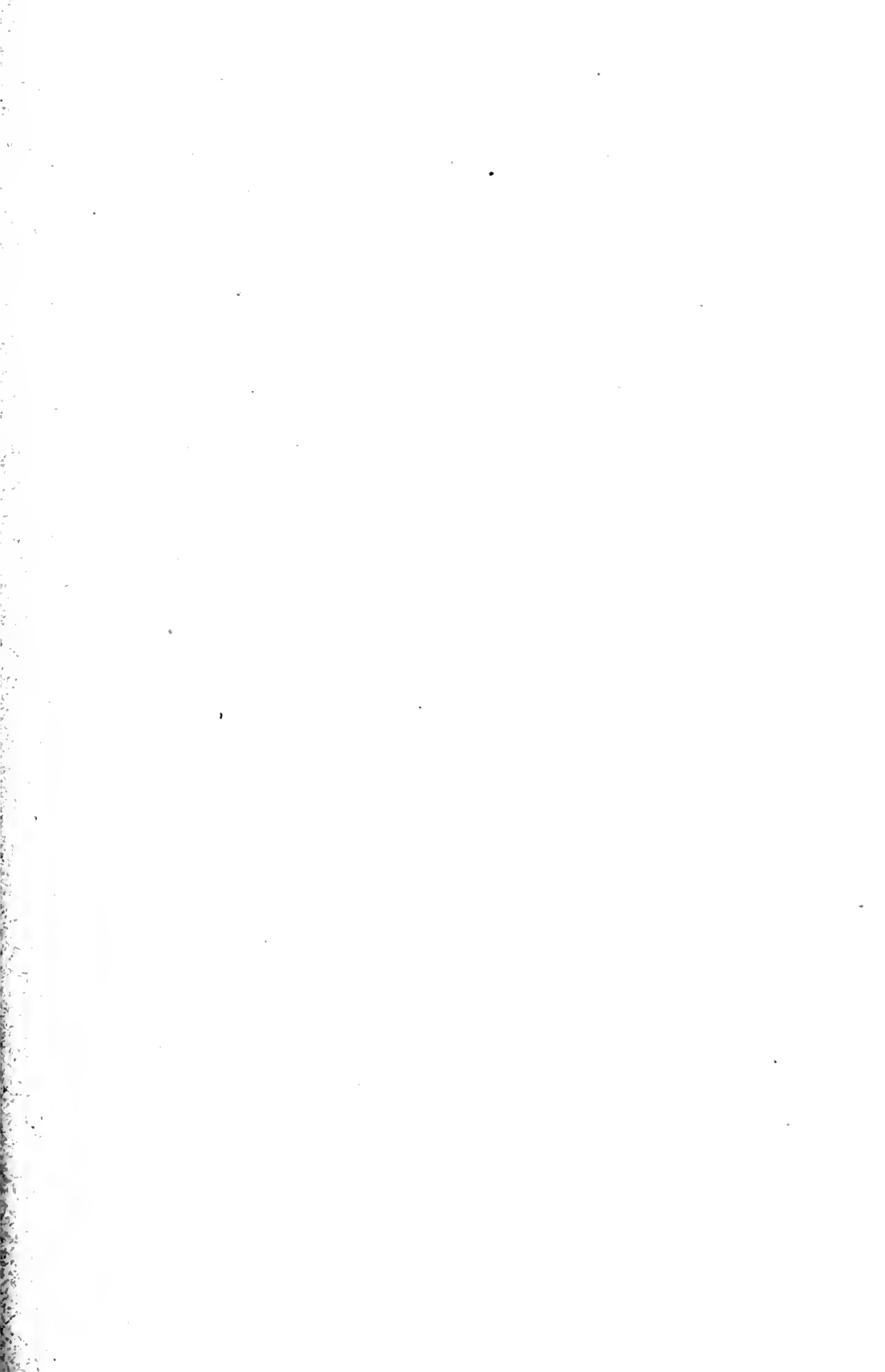
- subalbida (*Chrysochloroua*), 78.  
 subbuteo (*Falco*), 276.  
 subfureatus (*Apus*), 278.  
 sublimachala (*Propyrrhula*), 306.  
 subluccens (*Prospalta*), 31.  
 submacula (*Cyanopepla*), 157.  
 submarginata (*Euplexia*), 18.  
 subnigrata (*Conidea*), 29.  
 subocularis (*Glycyphila*), 343, 344.  
 — (*Stigmatops*), 343.  
 subpallida (*Carteia*), 50.  
 subrufinus (*Dryobates*), 280.  
 subspurcata (*Trichoptya*), 54.  
 substrigillata (*Lambula*), 214.  
 subundulata (*Munia*), 317, 318.  
 subviridis (*Thalassodes*), 82.  
 suffusa (*Heliura*), 168.  
 suleifrons (*Phloiophilus*), 63.  
 suleirostris (*Phloiophilus*), 88.  
 sumatranus (*Phyllergates*), 341, 342.  
 sundara (*Niltava*), 281.  
 superbus (*Ptilinopus*), 188.  
 superciliaris (*Abrornis*), 283.  
 — (*Muscicapa*), 326.  
 — (*Muscicapula*), 325.  
 — (*Suya*), 299.  
 superciliosus (*Phylloscopus*), 298.  
 superilius (*Pinarolestes*), 205.  
 surinamensis (*Eriphioides*), 151.  
*Surniculus*, 278.  
*Suthora*, 292.  
*Sutoria*, 296.  
*sutoria* (*Sutoria*), 296.  
*Suya*, 299.  
*swinhoii* (*Melittophagus*), 278.  
*syliaticus* (*Apodemus*), 357, 358, 359, 362, 367,  
 370, 371.  
*Syma*, 192.  
*Synoicus*, 187.  
*syntomoides* (*Eressa*), 123, 124.  
*Syntophodera*, 66.  
  
*Tadorna*, 275.  
*taeniata* (*Carteia*), 51.  
*taeniatus* (*Litocercus*), 88.  
*taigoor* (*Turnix*), 271.  
*Talegallus*, 187.  
*talifuensis* (*Aegithaliscus*), 302.  
 — (*Anorthura*), 293.  
*talpae* (*Ilystrichopsylla*), 62.  
*Tambana*, 5.  
*Tanysiptera*, 193, 207.  
*Tarsiger*, 295, 296.  
*taschenbergi* (*Leptopsylla*), 370, 371.  
*Tathothripa*, 47.  
*Tchitrea*, 282.  
  
*telescopthalmus* (*Arses*), 199, 200, 208.  
*Temenuchus*, 308.  
*temmineki* (*Tragopan*), 270.  
*tenebrosa* (*Amyeles*), 154.  
*tenulinea* (*Euplexia*), 18.  
*tenurostris* (*Oriolus*), 308.  
*tenuis* (*Apateina*), 142.  
*tephrocephala* (*Callicipta*), 282.  
*tephrocephalus* (*Cryptolopha*), 282.  
*tephrogenys* (*Chimiger*), 284.  
*tephronatus* (*Lanius*), 300.  
*ternanalis* (*Manoba*), 231.  
*Teupsiphone*, 282.  
*terrae-reginae* (*Collocalia*), 351.  
*terrae-reginae* (*Cypselus*), 351.  
*tertia* (*Gracupica*), 374.  
*tessellatum* (*Eucereon*), 175.  
*testacea* (*Balcera*), 120.  
 — (*Delphire*), 165.  
 — (*Hema*), 221.  
 — (*Nishada*), 217.  
 — (*Pseudapiconoma*), 119, 120.  
*testaceoflava* (*Hema*), 221.  
*tetragramma* (*Heliura*), 166.  
*thalassias* (*Halterophora*), 79.  
*Thalassodes*, 82.  
*Thalatha*, 2.  
*thalphiloides* (*Data*), 28.  
*Thea*, 252.  
*theomacha* (*Ninox*), 190.  
*thespesia* (*Collocalia*), 350.  
*thioferii* (*Pulus*), 267.  
*threnodes* (*Cacomantis*), 333.  
*threnothorax* (*Rhipidura*), 200.  
*tibetensis* (*Euplexia*), 27.  
*Tichodroma*, 303.  
*tickelli* (*Cyornis*), 281, 330.  
*tickellae* (*Cyornis*), 281.  
*tigrata* (*Eucereon*), 177.  
*tigrinus* (*Lanius*), 300.  
 — (*Turtur*), 272.  
*Tigrioides*, 217, 218.  
*tigrisoma* (*Eucereon*), 177.  
*timea* (*Meekia*), 83.  
*timneulus* (*Certhieis*), 276.  
*Tiracola*, 10, 11.  
*Todopsis*, 198.  
*togata* (*Ctenucha*), 183.  
*tonentiferum* (*Apion*), 115.  
 — (*Trichapion*), 97.  
*tonkianus* (*Acorymus*), 137.  
*topela* (*Munia*), 307, 317, 318.  
*torotoro* (*Syma*), 192.  
*torquata* (*Platyclea*), 296.  
*torquatus* (*Actin*), 190.  
*torqueola* (*Staphida*), 290.  
*torquilla* (*Jynx*), 280.

- tortricoides (Macaduma), 236.  
 tortugensis (Conurus), 85.  
 Totanus, 273.  
 townsendi (Collocalia), 350.  
 Tragopan, 270.  
 trailli (Oriolus), 308.  
 transfasciata (Ilema), 222.  
 triangularis (Rhyacia), 6.  
 triangulifera (Ariola), 46.  
 Triceliopsis, 204.  
 Trichaeta, 123.  
 Trichapion, 97, 107.  
 Trichodesma, 157, 158.  
 Trichoglossus, 194.  
 Trichoptya, 53, 54.  
 tricolor (Paraphloeobius), 145.  
 — (Rhipidura), 200.  
 — (Sphecia), 123.  
 Tridentifrons, 45, 46.  
 trifasciata (Garudina), 234.  
 trigoniphora (Aiteta), 38.  
 trilineata (Carea), 40.  
 trimaculata (Monosyntaxis), 224.  
 Tringa, 273.  
 trinitatis (Antichloris), 154.  
 triodes (Mucronianus), 140.  
 triodontus (Ctenophthalmus), 365, 366.  
 tripectinata (Hystriehopsylla), 372.  
 — (Stenoponia), 360, 370, 372.  
 triquetra (Solanophila), 248.  
 tristis (Acridotheres), 308.  
 Trisuloides, 2, 3, 4.  
 triton (Cacatua), 195.  
 trivialis (Anthus), 304.  
 trivirgata (Cryptolopha), 322.  
 trivirgatus (Phylloscopus), 322.  
 Trochalopteron, 286.  
 trochiloides (Phylloscopus), 298.  
 Troglodytes, 293.  
 tropicalis (Praedora), 128.  
 Tropideres, 139, 140, 142, 143.  
 truncata (Heteropan), 147.  
 tucumana (Ctenucha), 184.  
 tucumanense (Apion), 118.  
 Turdus, 293, 294.  
 Turnix, 271.  
 turpis (Perigea), 34.  
 Turtur, 271, 272.  
 Tympanistes, 47.  
 Typhloceras, 360, 370.  
 Typhlopsylla, 59, 62.  
 tytleri (Chelidon), 281.  
 ubiquitous (Cichlops), 316.  
 ugandae (Balacra), 120.  
 — (Pseudapiconoma), 120.  
 umbra (Balacra), 120.  
 — (Pseudapiconoma), 120.  
 unanimis (Agathiopsis), 68.  
 uncinata (Ctenophthalmus), 60, 61.  
 underwoodi (Ceramiida), 152.  
 undilineata (Bocula), 56.  
 undulata (Correbia), 180.  
 — (Martinella), 262.  
 undulatus (Epicerastes), 66.  
 unicolor (Cyornis), 329.  
 unifascia (Ilema), 222.  
 — (Padenodes), 235.  
 uniformis (Condica), 29, 30.  
 — (Hyalocera), 186.  
 unipectinata (Ischnopsylla), 360.  
 — (Ischnopsyllus), 372.  
 unipuncta (Callizygaena), 146.  
 unipunctata (Caprimima), 242.  
 Upupa, 278.  
 urbica (Chelidon), 365.  
 Urocissa, 310.  
 Uromys, 91.  
 Uroszipias, 190.  
 ustulata (Eriphioides), 151.  
 utricularia (Utriculifera), 244.  
 Utriculifera, 244.  
 vagans (Arachnothera), 203.  
 — (Melilestes), 203.  
 vagivitta (Dipterygia), 14.  
 validus (Uromys), 91.  
 variegata (Prospalta), 32.  
 — (Stictosia), 245.  
 — (Utriculifera), 244.  
 varins (Turdus), 293.  
 venata (Tiracola), 10, 11.  
 venerata (Graena), 313, 315.  
 veniplaga (Anisogamia), 71.  
 venosa (Ctenucha), 184.  
 ventralis (Hoplopterus), 273.  
 ventriosum (Apion), 99.  
 vennsta (Callizygaena), 146.  
 — (Carea), 41.  
 veraria (Thalassodes), 82.  
 verrucella (Disphaerona), 89.  
 versutus (Exochomus), 261.  
 vespa (Eressa), 124.  
 vespina (Eressa), 124.  
 Vibidia, 252.  
 vicina (Ptilotis), 203.  
 viduata (Phleboticeta), 149.  
 villosa (Sitta), 302.  
 villosus (Cacodmus), 95, 353.  
 vinaceus (Carpodacus), 306.  
 vinipectus (Proparus), 288.  
 vinosum (Apion), 115.

- violacea (Ozola), 68.  
 violinitens (Padenodes), 234.  
 violitincta (Ilema), 220.  
 virago (Lambessa), 118.  
 virens (Eurois), 9.  
 virescens (Cacomantis), 332, 334, 335.  
 — (Cuculus), 334.  
 viridescens (Calornis), 311.  
 viridicinctulata (Heliura), 168.  
 viridipennis (Phylloscopus), 298.  
 viridis (Budytes), 304.  
 — (Merops), 277.  
 viridisaturatus (Ceramidia), 153.  
 viridistriga (Anisogamia), 71.  
 visi (Ptilotis), 207, 209.  
 vitreata (Balacra), 121.  
 — (Pseudapiconoma), 121.  
 vulgaris (Ctenophthalmus), 60.  
 vulpina (Carea), 42, 43.
- wahnesi (Gerygone), 198.  
 wallacii (Todopsis), 198.  
 warringtonella (Calamidia), 223.  
 websteri (Cacomantis), 332, 335.  
 westermanni (Muscicapula), 325.  
 wetterensis (Neopsittacus), 211.  
 wingatei (Siva), 290.  
 wingelmuelleri (Apion), 117.
- xanthogenius (Comurus), 84, 85.  
 xanthopygia (Muscicapula), 281.  
 xanthorhynchum (Apion), 109, 113.  
 xanthorrhous (Pycnonotus), 284.  
 Xenopsylla, 360, 361.  
 Nylinades, 66, 143, 144.
- yangpiensis (Yuhina), 291.  
 yatalyanum (Apion), 116.  
 — (Stenapion), 97, 98, 116.  
 Yuhina, 290, 291.  
 yunnanensis (Babax), 285.  
 — (Certhia), 303.  
 — (Emberiza), 307.  
 — (Hypsipetes), 284.  
 — (Ianthocincla), 285.  
 — (Nucifraga), 310.  
 — (Regulus), 302.  
 — (Sitta), 302.  
 — (Trochalopteron), 286.
- Zanthopygia, 323.  
 zoeae (Carpophaga), 189.  
 zonata (Apocerea), 170.  
 Zonerodius, 190, 207.  
 Zosterops, 303, 346, 347.

PRINTED BY  
HAZELL WATSON AND VINEY, LD.,  
LONDON AND AYLESBURY.





Advertisements of Zoological Objects and Zoological Books only accepted.

Subscriptions for the present Volume are due NOW.

**Dr. STAUDINGER & BANG-HAAS,  
BLASEWITZ-DRESDEN,**

In their NEW PRICE LIST, No. LVI., offer more than 19,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition; 1,400 kinds of PREPARED LARVAE, etc. SEPARATE PRICE LIST, No. XXX., for COLEOPTERA (29,000 Species).

LISTS VII. and VIII., for HYMENOPTERA (3,200 Species), DIPTERA (2,400), HEMIPTERA (2,200), NEUROPTERA (600), ORTHOPTERA (1,100), BIOLOGICAL OBJECTS (265).

All Lists have a convenient index of genera.

*Liberal Discount for Cash Orders. Prices low.*

**WILHELM SCHLUETER,  
HALLE-a.-S., GERMANY.**

ESTABLISHED 1853.

**LARGEST STOCK OF**  
European and Exotic BIRD SKINS.  
European and Exotic BIRDS' EGGS.

**NATURAL HISTORY OBJECTS OF ALL KINDS  
FOR MUSEUMS AND COLLEGES.**

Outfit and Completion of Natural History Cabinets.  
**OWN PREPARATION WORKS.**

*Export to all parts of the World of many years' standing.*

CATALOGUES FREE OF CHARGE.

**W. F. H. ROSENBERG,  
Importer of EXOTIC ZOOLOGICAL COLLECTIONS,  
57, HAVERSTOCK HILL, LONDON, N.W.**

Fresh consignments are constantly arriving, including MAMMALS, BIRD SKINS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED  
SPECIMENS SENT ON APPROVAL.

RECENTLY RECEIVED.—Several collections of Indian Birds' Eggs, with full data and guaranteed identification, including many great rarities.

**TO ORNITHOLOGISTS & MUSEUMS.**

**W. F. H. ROSENBERG,  
Importer of Exotic Zoological Specimens,  
57, Haverstock Hill, London, N.W., England,**

begs to announce the publication of a new Price List (No. 17) of BIRD SKINS. This Catalogue contains nearly 6,000 species, and is the largest and most complete price list of birds ever published. It is arranged in systematic order, with authors' names, indications of localities, and an index to Families. It will be sent gratis and post free on application, as will the following lists:

No. 14: Mammals. No. 15: Birds' Eggs. No. 16: Reptiles, Amphibia, and Fishes. No. 12: Lepidoptera. No. 13: Coleoptera.

**Largest stock in the world of specimens in all branches of Zoology.**

Please state which Lists are required.

**ROWLAND WARD, Ltd.,**

**"The Jungle,"**

167, PICCADILLY, LONDON, W.

**MAMMALS, BIRDS, AND  
OTHER SPECIMENS**

**for Museums.**

**A REVISION OF THE LEPIDOPTEROUS FAMILY  
SPHINGIDÆ**

BY THE

**Hon. WALTER ROTHSCHILD, Ph.D.**

AND

**KARL JORDAN, M.A.L., Ph.D.**

PRICE: for Booksellers, £4; for the Public, £5

cxviii and 972 pages, with 67 Plates.

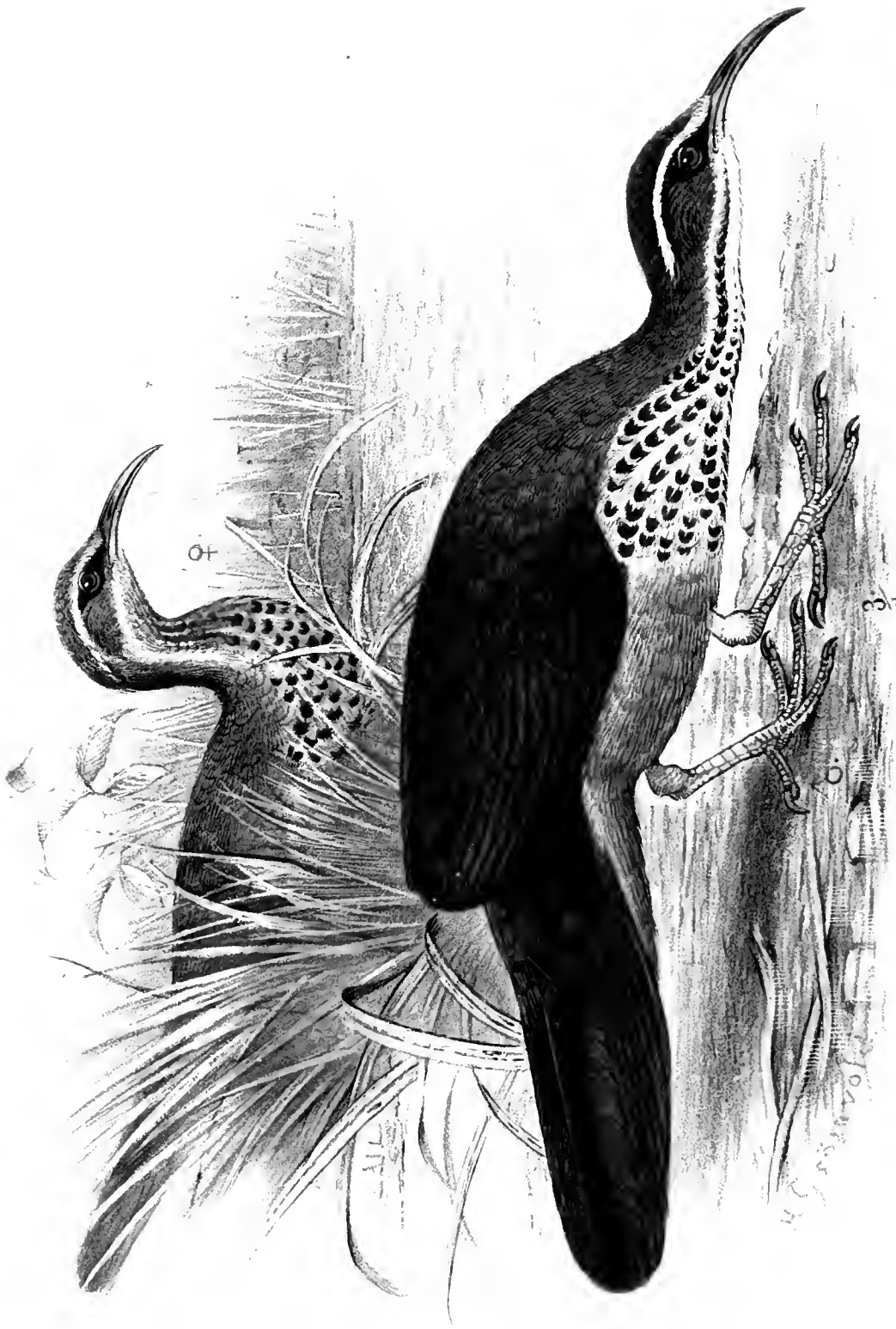
*Annual Subscription to "Novitates Zoologicae," £1 1s.*

*Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on completed volumes only.)*

Communications, etc., may be addressed to

**THE EDITORS OF "NOVITATES ZOOLOGICAE,"  
ZOOLOGICAL MUSEUM,**

**TRING.**



♂

34

M. B. BENCCHI 1884

W. B.









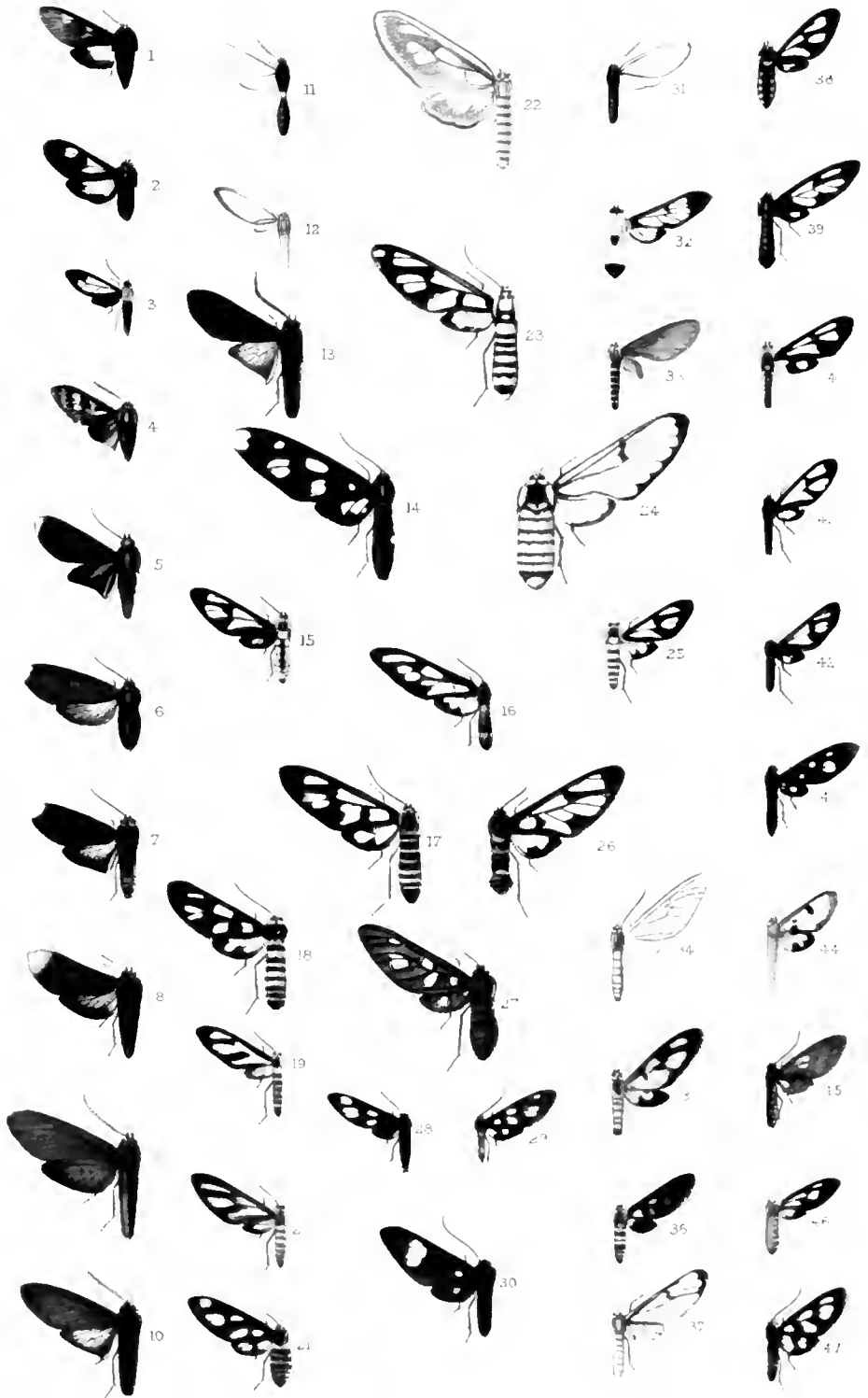
H. Grœnvold del et lith.

W. Neumann imp.

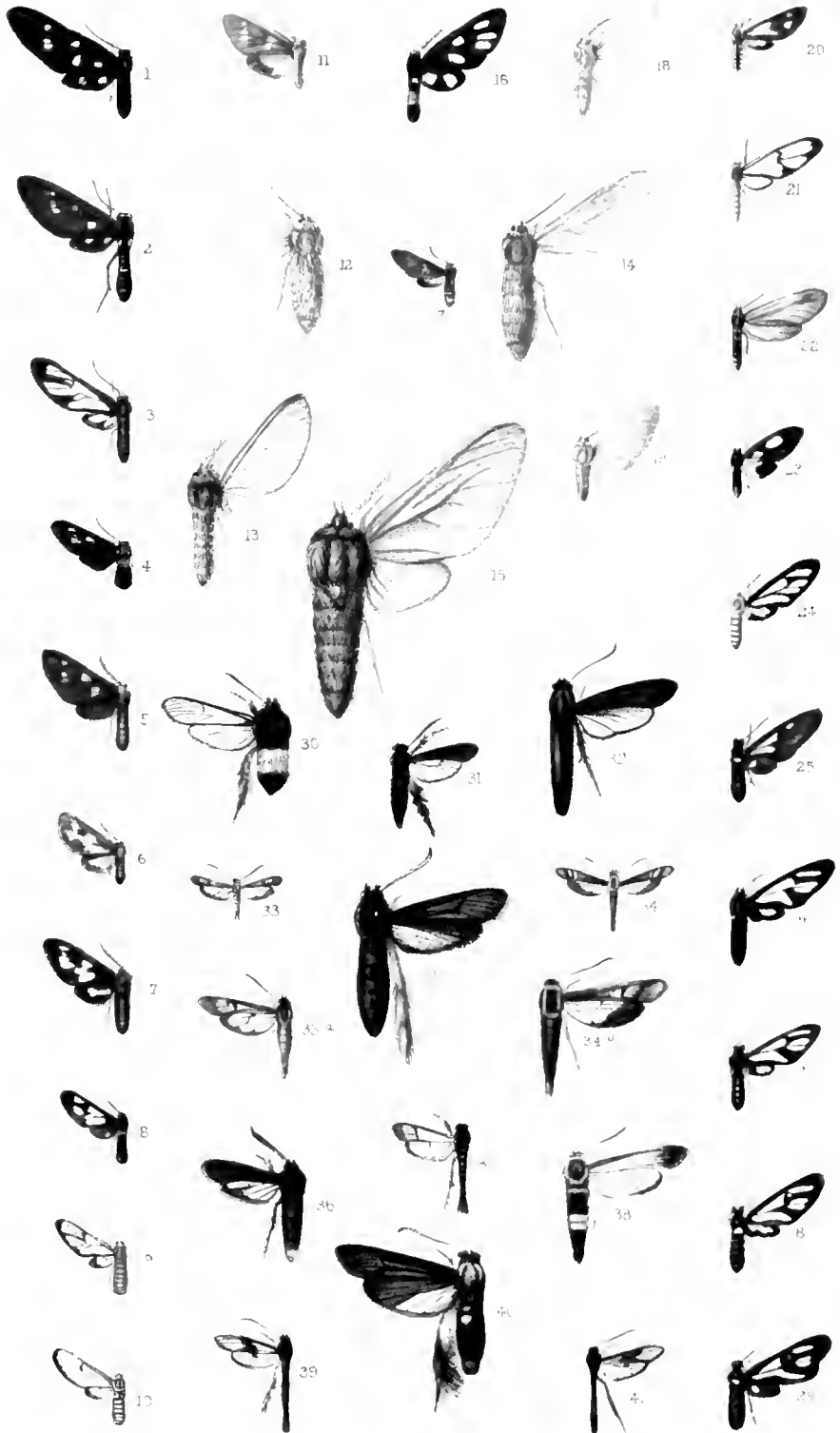
NEUCOPSAR ROTHSCHILDI. — *Grœnvold*.  
GRACULICA TERPIS. *Sav.*



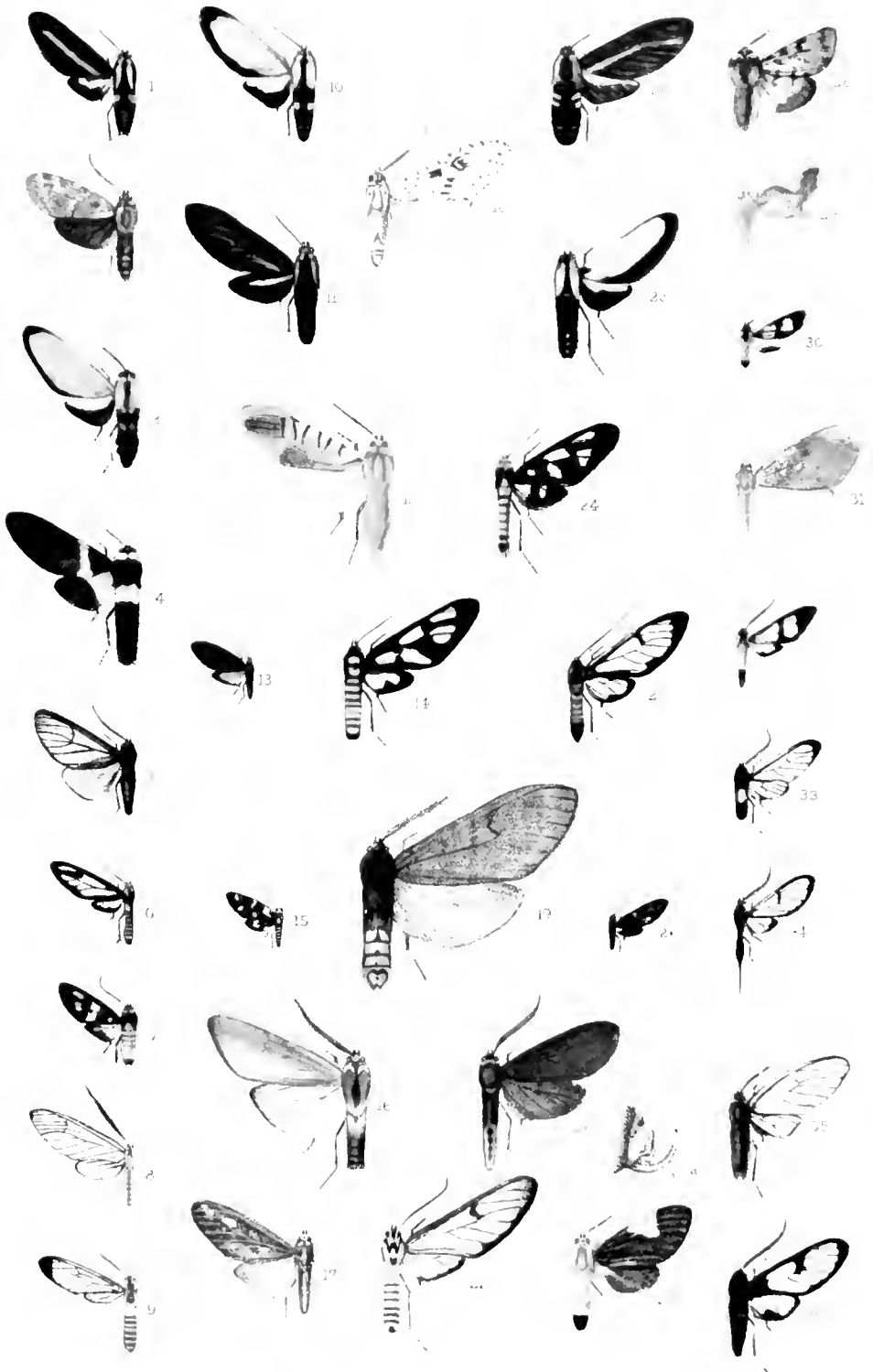














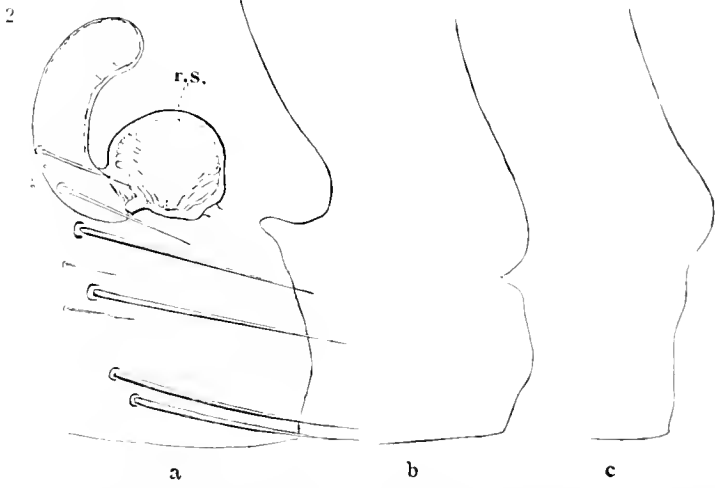
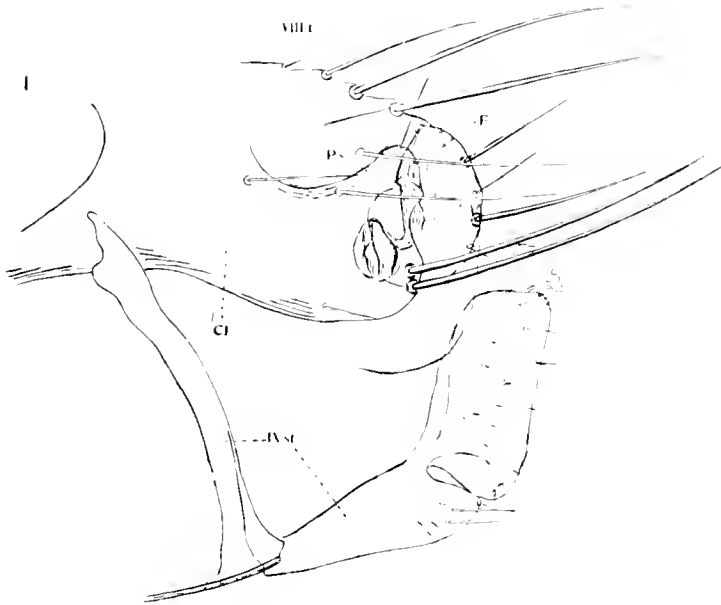


FIG. 1.—Organs of copulation of *Ceratophyllus barbarus* ♂. VIII, t. = eighth abdominal tergite, ix. st. = ninth sternite, Cl = clasper, P. = process of clasper, F = movable process.

FIG. 2.—Seventh abdominal sternite of three specimens (a, b, c) of *Ceratophyllus barbarus* ♀. r. s. = receptaculum seminis.

K. J. del.





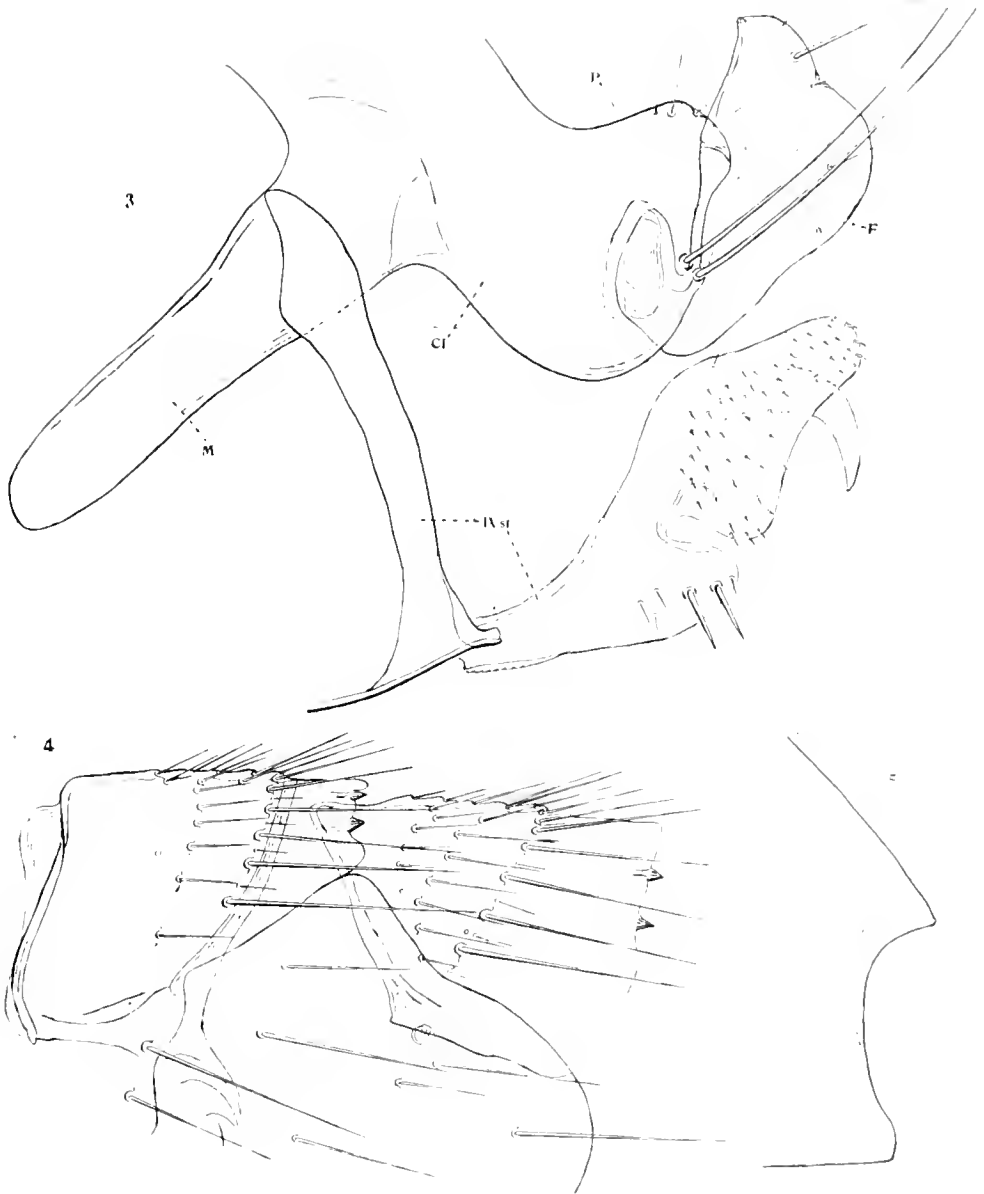


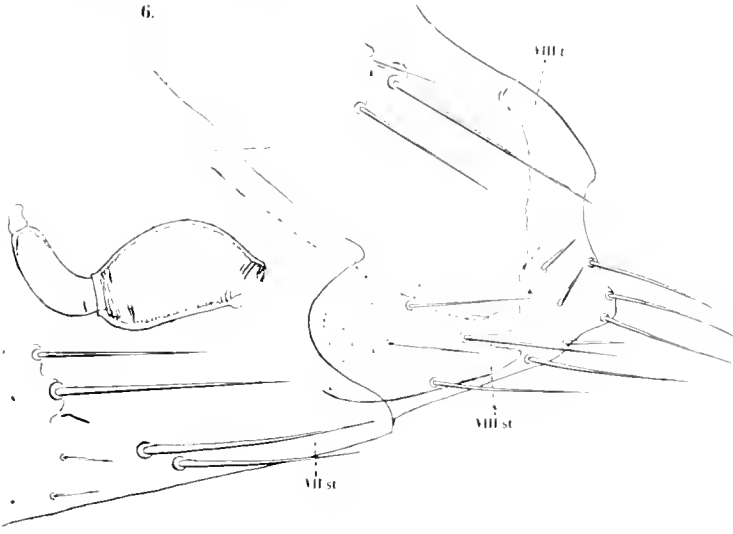
FIG. 3.—Organs of copulation of *Ceratophyllus maurus* ♂. M — manubrium.

FIG. 4.—Meso- and metanotum of the same.

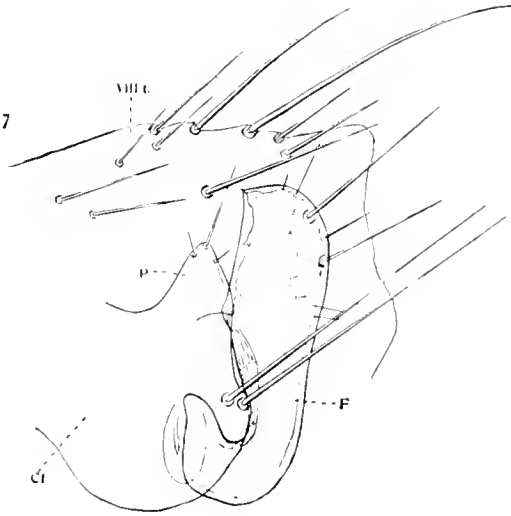
FIG. 5.—Seventh abdominal sternite of *Ceratophyllus maurus* ♀



6.



7



8.



b.



9.



d.



FIG. 6.—Posterior abdominal segments of *Ceratophyllus larvae* ♂.  
 FIG. 7.—Organs of copulation of *Ceratophyllus hendeyi mauretanicus* ♂.  
 FIG. 8.—Seventh abdominal sternite of two specimens of *C. h. hendeyi* ♂.  
 FIG. 9.—Seventh abdominal sternite of two specimens of *C. h. mauretanicus* ♀.



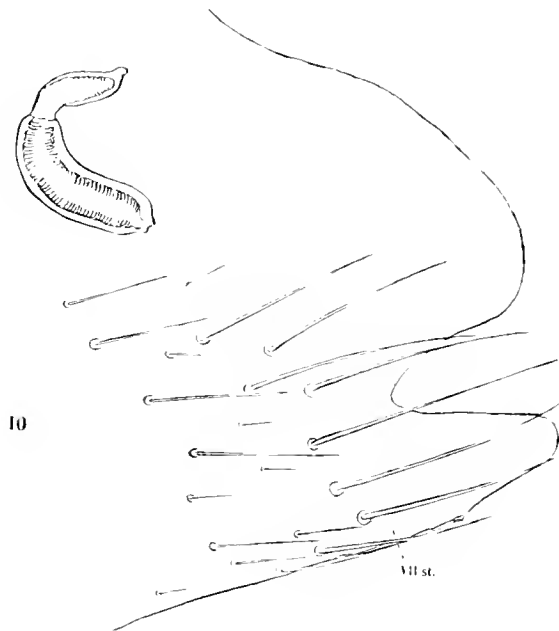
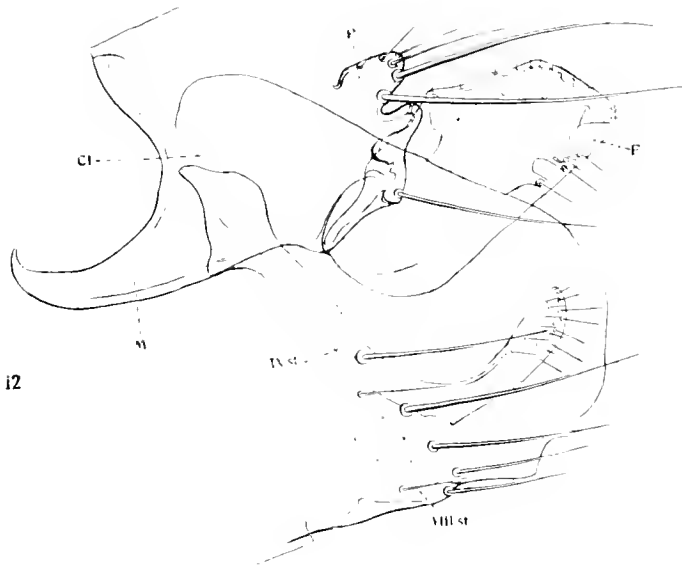


FIG. 10.—Seventh abdominal sternite of *Ceratophyllus lucicola meridionalis*.

FIG. 11.— „ „ „ „ *C. turrentis*.

K. J. del.





12

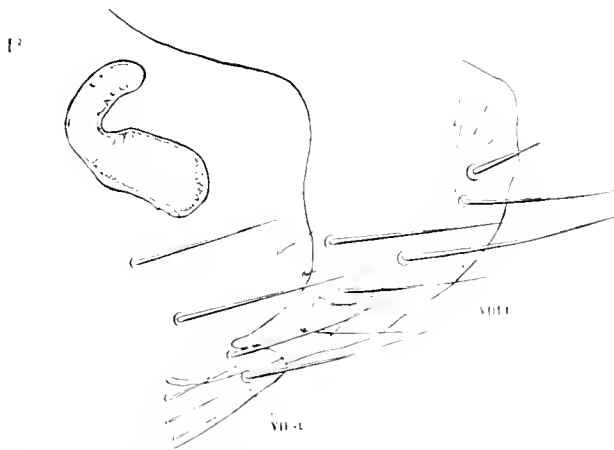


FIG. 12. Organs of copulation of *Ctenophthalmus russulae* ♂. CI = clasper, M = manubrium, P = process of clasper, F = movable process, viii, st and ix, st = eighth and ninth abdominal sternites.

FIG. 13. Seventh sternite (vii, st) and ventral portion of eighth abdominal tergite (viii, t) of *Ctenophthalmus russulae* ♂.

K. J. del.





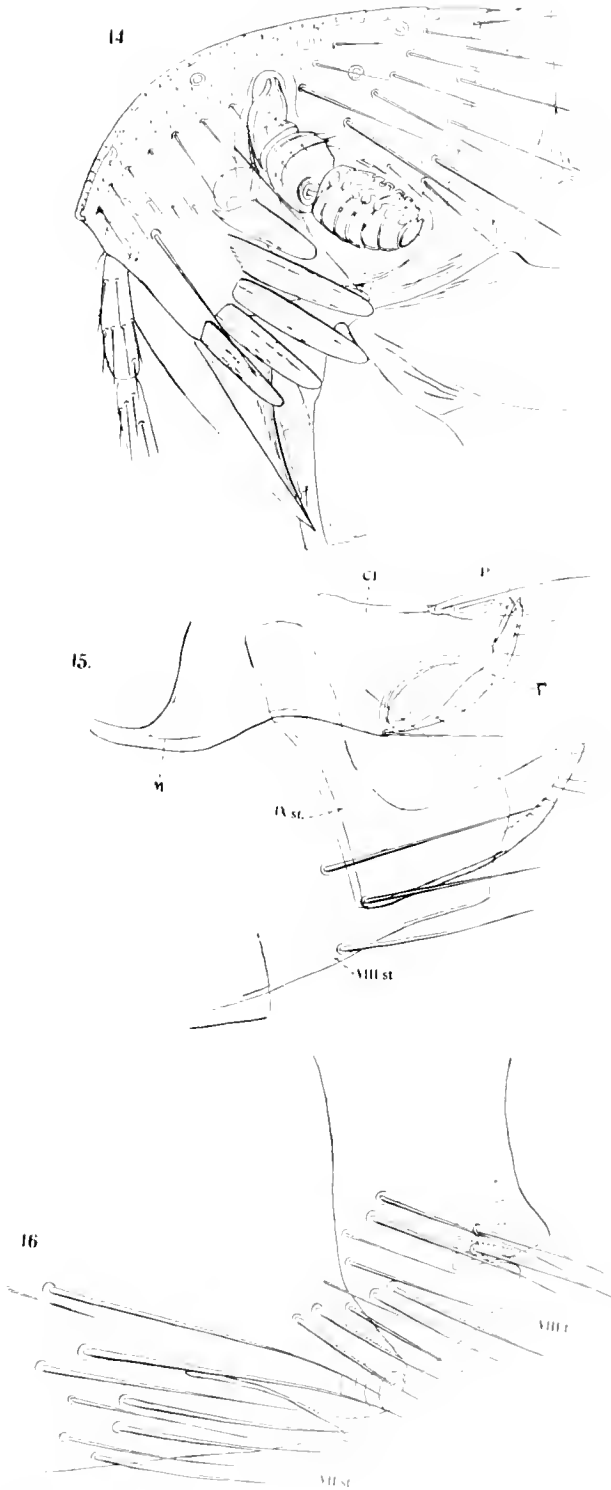


FIG. 14.—Head of *Rhadinopsylla mascutana* ♂.

FIG. 15.—Organs of copulation of *Rhadinopsylla mascutana* ♂. Cl = clasper, M = manubrium, P = process of clasper, F = movable process, VIII st. and IX st. = eighth and ninth abdominal sternites.

FIG. 16.—Seventh abdominal sternite (VII st.) and ventral portion of eighth tergite (viii t.) of *Rhadinopsylla mascutana* ♀.



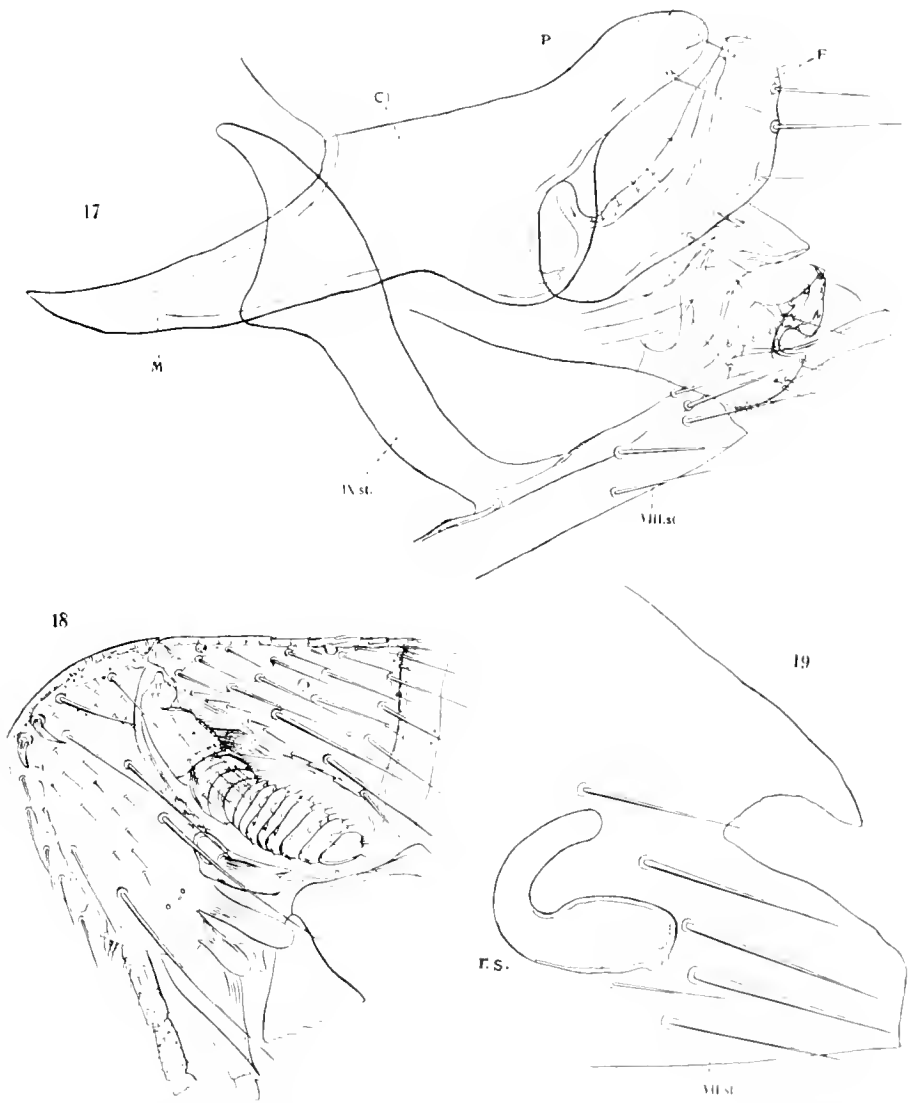


FIG. 17.—Organs of copulation of *Leptopsylla algira* ♂. Cl = clasper, M = manulrium, P = process of clasper, F = movable process ("finger"), viii.st. and ix.st. = eighth and ninth abdominal sternites.

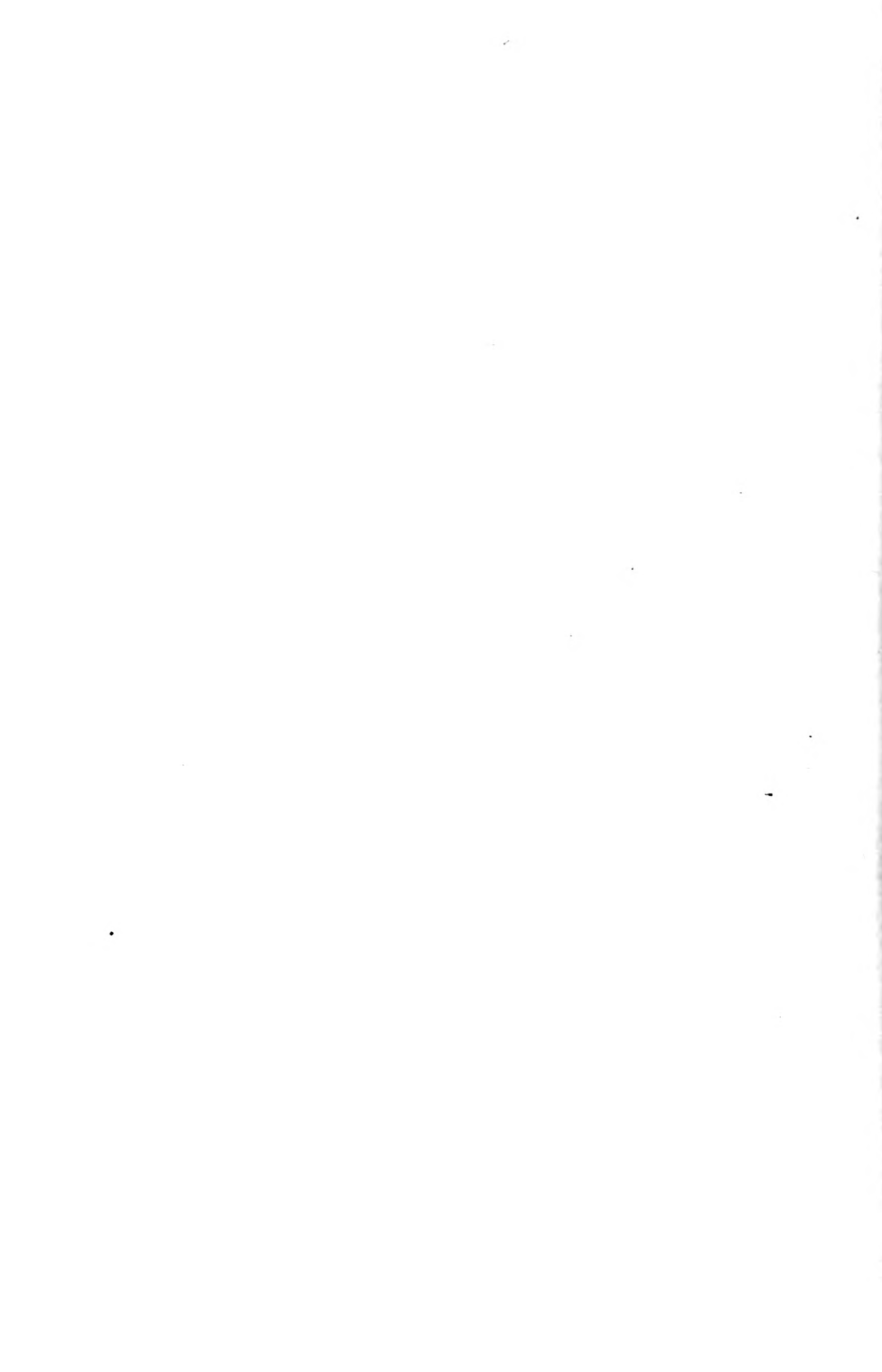
FIG. 18.—Head of *Leptopsylla algira* ♂

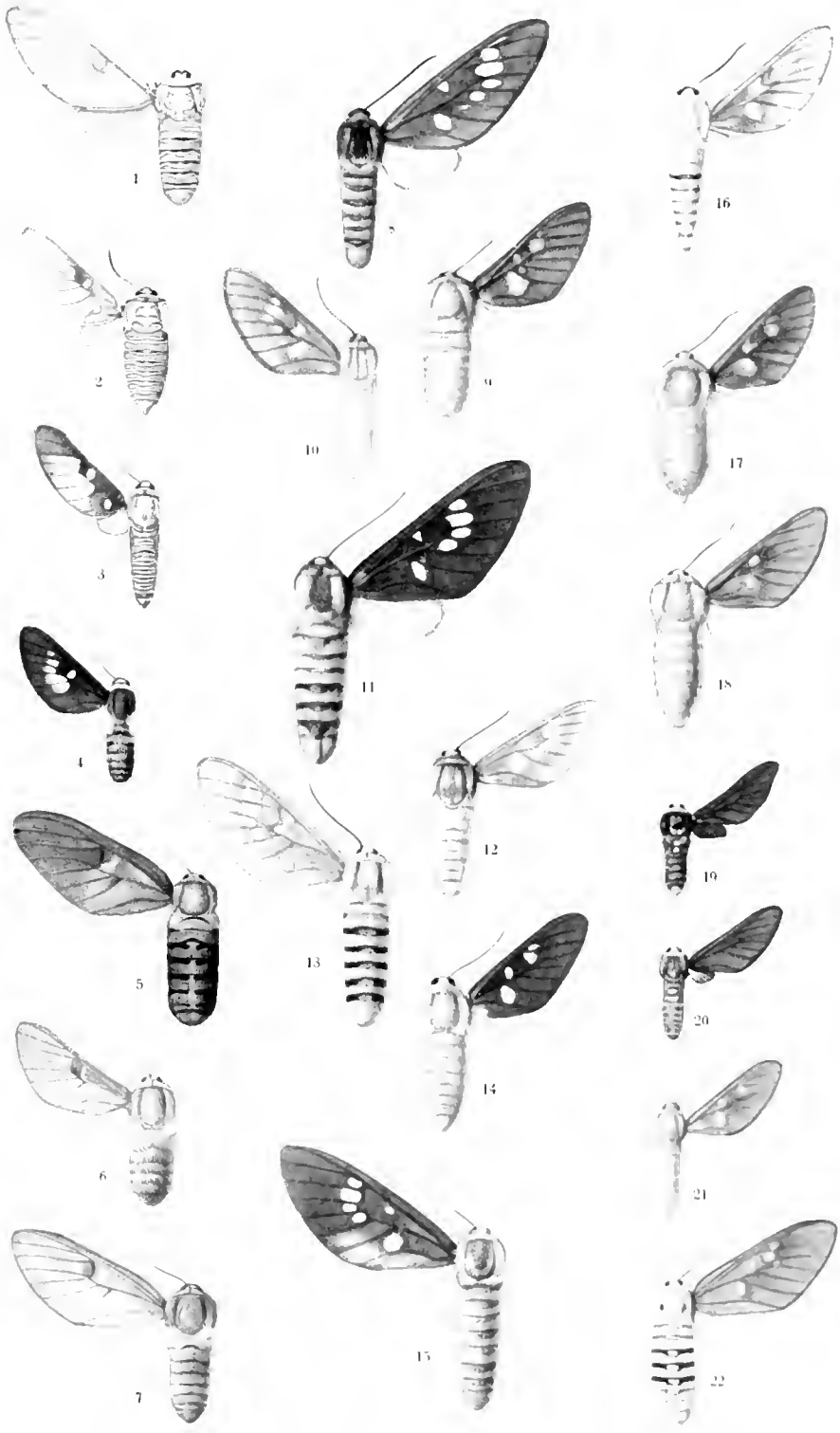
FIG. 19.—Seventh abdominal sternite of *Leptopsylla algira* ♀. F.S. = receptaculum seminis.

K. J. del.











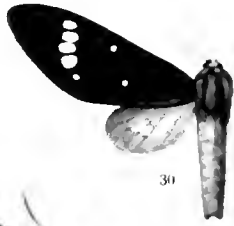








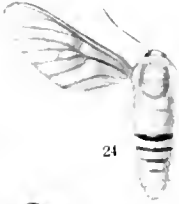
23



30



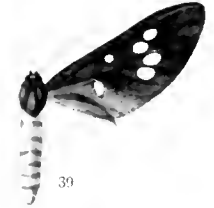
38



24



31



39



25



32



40



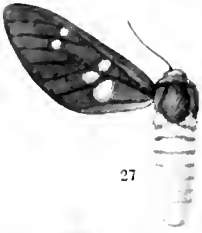
26



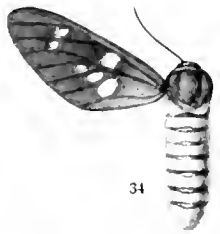
33



41



27



34



35



42



28



36



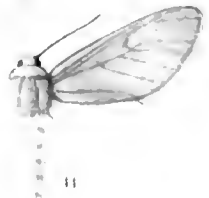
43



29



37



44

